CONTRACTUAL ASPECTS OF VALUE ENGINEERING CON 236

OCTOBER 2002

DEFENSE ACQUISITION UNIVERSITY MIDWEST REGION

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DEDICATION

Jean S. Jines, D.Mn (which stands for, "Don't Mean Nothin",) is a friend, colleague, and one of the most knowledgeable people I know on the subject of Value Engineering. Others have done the typing and editing of this text, but a true master craftsman - Jean Jines - is responsible for much of the content of the following pages. His own subtle Cajun blend of flavoring is evident in articles, cases and writings. The true mark of the craftsman is not merely the expert way in which they do something. It is that, and more. It's the way they leave their own identifiable, yet low-key trademark of excellence. Kind of like a watermark on quality bond paper that is only seen when held in the light. Be observant as you read, and you will see the hallmark of excellence left by Jean and his predecessor, Howie Pryor--it's there!!...And we are all enriched by it!

WAZ

PREFACE

CONTRACTUAL ASPECTS OF VALUE ENGINEERING

CON 236

The Department of Defense is continuously trying to improve the quality of the Acquisition work force. Contract managers must become more professional and customer oriented as we respond to the changing need of the requiring activity and the needs of the contractor. Contracting is a service function that bridges the gap between user and provider. Whether we serve a program manager, a central buying activity; or an operational base, post, camp, or station, the principles of contracting management must be applied.

Contracting management requires expertise in many areas, as well as the ability to research and apply sound business acumen to resolve complex issues. This textbook has been assembled to assist the contracting professional in developing an understanding, appreciation and proficiency in applying the value management/engineering process in defense contracts.

ACKNOWLEDGMENT

This collection of papers, articles, readings, exercises, and reference materials on the subject of contracting management was compiled and developed by:

Jean Jines
Howie Pryor
Chuck Waszczak

National Contract Management Association and Defense Acquisition University are acknowledged for their permission to reprint articles from *Contract Management* and *Program Manager.*

Charles A. Waszczak
Course Director
OCTOBER 2002

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CONTRACTUAL ASPECTS OF VALUE ENGINEERING - CON 236

Introduction

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Section 1

Course Objective

The purpose of CON 236, Contractual Aspects of Value Engineering, is to provide intermediate level personnel with an intensive review of the techniques and objectives of the Department of Defense (DoD) Value Engineering program. Value Engineering is a systematic effort directed at analyzing the functional requirements of a system, equipment, facility, procedure, service, or supply item to achieve essential functions at the lowest overall lifecycle cost. **The overall Course Terminal Objective (CTO**) is as follows:

"GIVEN CONTRACT SITUATIONS WHERE VALUE ENGINEERING MAY BE APPLIED, DEVELOP A POSITION TO ACCEPT OR REJECT A VALUE ENGINEERING CHANGE PROPOSAL, SO THAT THE BEST INTERESTS OF THE GOVERNMENT ARE MAINTAINED"

TERMINAL LEARNING OBJECTIVE	ENABLING LEARNING OBJECTIVE
TLO #1: **GIVEN CHOICES, RECOGNIZE THE TERMS AND CONCEPTS OF VALUE ENGINEERING**	**ELO #1** DESCRIBE VALUE ENGINEERING
	ELO #2 DISTINGUISH BETWEEN A VALUE ENGINEERING CHANGE PROPOSAL (VECP) AND AN ENGINEERING CHANGE PROPOSAL (ECP)
	ELO #3 DESCRIBE THE ROLE & FUNCTION OF VALUE ENGINEERING IN THE DEPARTMENT OF DEFENSE
	ELO #4 DESCRIBE THE VALUE OF THE ECP PROCESS
TLO #2: **GIVEN CHOICES, RECOGNIZE THE APPROPRIATE VALUE ENGINEERING CLAUSE TO INCLUDE IN A CONTRACT**	**ELO #1** DESCRIBE THE FEDERAL ACQUISITION DEFINITION OF VALUE ENGINEERING
	ELO #2 SUMMARIZE THE REQUIREMENTS OF A VALUE ENGINEERING CHANGE PROPOSAL
	ELO #3 IDENTIFY WHEN TO INCLUDE VALUE ENGINEERING IN A CONTRACT
	ELO #4 DISTINGUISH AMONG THE 3 FEDERAL ACQUISITION REGULATION VALUE ENGINEERING CLAUSES
	ELO #5 EXPLAIN THE SALIENT POINTS IN THE VALUE ENGINEERING "BASIC" CLAUSE – FAR 52.248-1
	ELO #6 DETERMINE THE VALUE ENGINEERING CHANGE PROPOSAL SAVINGS CATEGORY AND SHARE PERIODS

TLO #3: **GIVEN CASE STUDIES INVOLVING DIFFERING VARIATIONS OF VALUE ENGINEERING FAR CLAUSE 52.248-1, OR FAR CLAUSE 52.248-3, DETERMINE THE MONITARY IMPLICATIONS OF THE VALUE ENGINEERING CHANGE PROPOSAL**	**ELO #1** CALCULATE NET ACQUISITION SAVINGS ON A VALUE ENGINEERING CHANGE PROPOSAL
	ELO #2 CALCULATE COLLATERAL SAVINGS ON A VALUE ENGINEERING CHANGE PROPOSAL
	ELO #3 APPLY THE TABLE AT FAR CLAUSE 52.248-1, PARAGRAPH F, "CONTRACTOR'S SHARE OF NET ACQUISTION SAVINGS," [GIVEN VARIABLE CONTRACT TYPES &SHARING ARRANGEMENTS].
	EMO #4 IDENTIFY HOW THE INSTANT CONTRACT WILL BE MODIFIED
TLO #4: **GIVEN AN ENGINEERING CHANGE PROPOSAL, DETERMINE THE APPROPRIATENESS OF THE PROPOSED CHANGE CLAUSE**	**ELO #1** CALCULATE THE IMPACT OF AN EQUITABLE ADJUSTMENT RESULTING FROM AN ENGINEERING CHANGE PROPOSAL ON THE CONTRACT
	ELO #2 CALCULATE THE IMPACT ON THE CONTRACT IF THE ENGINEERING CHANGE PROPOSAL IS SUBMITTED AS A VALUE ENGINEERING CHANGE PROPOSAL
	ELO #3 IDENTIFY THE BUSINESS IMPLICATIONS OF THE VARIOUS CLAUSES

Target Audience

Contracting, program management and functional personnel who may become involved in Value Engineering (VE) applications or who support major weapon systems and can be expected to encounter specific VE activity. Individuals not assigned to contracting are encouraged to attend. While the primary focus is on contractual aspects of VE, the IPT/IPPD approach is emphasized regarding the utility of value methodology and resulting value engineering change proposals.

Course Description

DoD contracting personnel and others involved in VE are exposed to basic concepts and definitions, Value Engineering Change Proposal (VECP) preparation and evaluation processes, VE contract clauses, types of savings, techniques for calculating savings, and the relationship of VE to other incentives contained in the contract and subcontracts. Using the case study method, the class is broken into sub-groups to explore a wide range of value engineering cases across the spectrum of contract types, and cost saving share possibilities. Emphasis is placed on participation and interaction among students and faculty to maximize understanding of value engineering/management concepts.

Section 2

Administrative Information

A. Useful Communication Links:

Telephone:	Comm	(937)-255-4915
	DSN	785-4915

Contact Points: Charles Waszczak, Ext. 3395, E-Mail: charles.waszczak@dau.mil

Telefax: (937) 255-4986

Student Ops: (937) 255-4915, ext 3252

DAU Home Page: http://www.dau.mil/

B. Continuing Education Units (CEU), Continuing Acquisition Education Hours, and Transcripts

CEUs are calculated in accordance with standards established by the International Association for Continuing Education and Training (IACET).. One CEU is equivalent to ten contact hours. **DAU has determined that CEUs for CON 236, Contractual Aspects of Value Engineering are**:

2.8 CEUs

Students have the ability to request their transcripts directly from the DAU website at: http://www.dau.mil/registrar/registrar.asp

C. Student Evaluation of Course: There are three principal means of obtaining student evaluation of the course content and conduct.

1. Direct feedback to the course director at any time, and/or at the final class session.

2. Student on line, end-of-course written appraisal accomplished before the final class session at: ***http://surveyor.dau.mil/ss/wsb.dll/stumpr/survey10012002.htm***; or via a paper end-of-course critique provide by the instructor.

3. Student access to Department Head.

Section 3

Class Schedule

DAY	SUBJECT	CHAPTER
1	INTRODUCTION AND COURSE ADMINISTRATION	-
	WHAT IS VALUE ENGINEERING & WHO DOES IT?	A
2	REVIEW OF THE FAR CLAUSES	B
3	FAR CLAUSE APPLICATION EXERCISES	C
4	FAR CLAUSE APPLICATION EXERCISES	C
5	EXAM & COURSE COMPLETION CERTIFICATES	NA

Section 4

Evaluation

A. Student Evaluation Process: Students will be evaluated on the basis of one exam and class participation as evidenced in the case studies. The breakout is listed below:

Exam	70%
Participation	30%
Total	100%

B. Grades: Grades will be determined by the Course Director in conjunction with the course administrator and participating faculty based upon the following criteria:

REQUIRED % OF AVAILABLE POINTS	DEFINITION	GRADE
90 - 100	Excellent	A
80 - 89	Good	B
Below 80	Failure	F
	Incomplete	I
	Withdrawal	W
	Satisfactory	S
	Unsatisfactory	U

1. The F grade will be given to students who do not meet any one of the following criteria:

    -- Accumulate an overall 70% of total course requirements (exam, 70% and class participation 30%;

2. The I or W grade may be given to students who fail to complete a course because of illness or other valid reason.

STUDENT PRE-COURSE QUESTIONAIRE	COURSE NUMBER/START DATE

Name	Nickname	Rank or Grade

Career Speciality	Present Position or Title

Duty Station	Official Mailing Address	Telephone Number Comm: DSN:

Supervisor's Name	Rank or Grade	Supervisor's Address

THE BEST PART(S) OF MY JOB IS/ARE

THE THING(S) I REALLY DON'T LIKE ABOUT MY JOB IS/ARE

EDUCATIONAL BACKGROUND (GOVERNMENT AND CIVILIAN)

WHAT DO YOU EXPECT FROM THIS COURSE?

ANY PERSONAL INFO YOU CARE TO SHARE (FAMILY, HOBBIES,SNORE,etc)

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CHAPTER A

WHAT IS VALUE ENGINEERING & WHO DOES IT?

The Federal Acquisition Regulation (FAR), Subpart 1.102 Statement of Guiding Principles for the Federal Acquisition System states that, "The vision for the Federal Acquisition System is to deliver on a timely basis the best value product or service to the customer, while maintaining the public trust and fulfilling public policy objectives. Participants in the acquisition process should work together as a team and should be empowered to make decisions within their area of responsibility."

Those who "do" value engineering can be key players in the Federal Acquisition System vision stated above.

But what is value engineering? Who does value engineering?

Open the book and begin the exploration of this key activity and the vital role that it can and should play in fulfilling this vision!

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VALUE ENGINEERING --

a) Program Saver?
b) Cost Saver?
c) All of the Above?
d) None of the Above
e) Both c) and)d
f) A Money Maker

Read the next couple of pages which embody the statement of guiding principles for the federal acquisition system -- then ask yourself the above question.

What do you think? Is it answer, a)? Or perhaps it's answer, b)? The safe answer is, c), of course. But what has been your experience? Perhaps it's been, d), "None of the Above"!

VE as you may already know it is actually answer, e), which is, "Both answer c) and answer d)." Am I playing with you? No, not really. Because depending upon your experience with VE, you may have seen it used as a program saver by furtive program managers, as a cost saver by the more conscientious public stewards, or not at all, by the vast majority.

There is another side of VE which the contractor's favor -- VE as a money maker (we'll call that answer, f).

Reread FAR paragraph 1.102-1(b), Vision.

> "All participants in the System are responsible for making acquisition decisions that deliver the best value product or service to the customer. Best value must be viewed from the broad perspective and is achieved by balancing the many competing interests in the System. The result is a system which works better and costs less."

I submit that this ***has been the basis*** of VE for a very long, long time. There has simply been less-than-spectacular attention given this valuable tool. Times are changing, though. Take a look at the first three readings in Chapter E. You don't have to read them to understand that a new breeze is blowing through the concept of VE. A proposed FAR update including FAR clause updates; an enacted FAR case bringing VE to all Federal agencies; and, a DoD VE Strategic Plan.

Back to the chapter title heading question -- What is Value Engineering & Who Does It? We will deal , now, with the former -- all will be doing the latter!

PART 1 FEDERAL ACQUISITION REGULATIONS SYSTEM

1.000 Scope of part.

This part sets forth basic policies and general information about the Federal Acquisition Regulations Systems including purpose, authority, applicability, issuance, arrangement, numbering, dissemination, implementation, supplementation, maintenance, administration and deviation. Subparts 1.2, 1.3, and 1.4 prescribe administrative procedures for maintaining the FAR System.

SUBPART 1.1 - PURPOSE, AUTHORITY, ISSUANCE

1.102 Statement of Guiding Principles for the Federal Acquisition System

(a) The vision for the Federal Acquisition System is to deliver on a timely basis the best value product or service to the customer, while maintaining the public trust and fulfilling public policy objectives. Participants in the acquisition process should work together as a team and should be empowered to make decisions within their area of responsibility.

(b) The Federal Acquisition System will-

(1) Satisfy the customer in terms of cost, quality, and timeliness of the delivered product or service by, for example-

(i) Maximizing the use of commercial products and services;

(ii) Using contractors who have a track record of successful past performance or who demonstrate a current superior ability to perform, and;

(iii) Promoting competition;

(2) Minimize administrative operating costs;

(3) Conduct business with integrity, fairness, and openness; and

(4) Fulfill public policy objectives.

(c) The Acquisition Team consists of all participants in Government acquisition including not only representatives of the technical, supply, and procurement communities but also the customers they serve, and the contractors who provide the products and services.

(d) The role of each member of the Acquisition Team is to exercise personal initiative and sound business judgment in providing the best value product or service to meet customer's needs. In exercising initiative, Government members of the Acquisition Team may assume if a specific strategy, practice, policy of procedure is in the best interests of the Government and is not addressed in the FAR, nor prohibited by law (statute of case law), Executive order, or other regulation, that the strategy, practice, policy or procedure is a permissible exercise of authority.

1.102-1 Discussion.

(a) Introduction. The statement of Guiding Principles for the Federal Acquisition System (System) represents a concise statement designed to be user-friendly for all participants in Government acquisition. The following discussion of the principles is provided in order to illustrate the meaning of the terms and phrases used. The framework for the System includes the Guiding Principles for the System and the supporting policies and procedures in the FAR.

(b) Vision. All participants in the System are responsible for making acquisition decisions that deliver the best value product or service to the customer. Best value must be viewed from the broad perspective and is achieved by balancing the many competing interests in the System. The result is a system which works better and costs less.

1.102-2 Performance standards.

(a) Satisfy the customer in terms of cost, quality, and timeliness of the delivered product or service.

(1) The principal customers for the product or service provided by the System are the users and line managers, acting on behalf of the American taxpayer.

(2) The system must be responsive and adaptive to customer needs, concerns, and feedback. Implementation of acquisition policies, as well as consideration of timeliness, quality, and cost throughout the process, must take into account the perspective of the user of the product or service.

(3)When selecting contractors to provide products or perform services, the government will use contractors who have a track record of successful past performance or who demonstrate a current superior ability to perform.

(4) The Government must not hesitate to communicate with the commercial sector as early in the acquisition cycle to help the Government determine the capabilities available in the commercial marketplace. The Government will maximize its use of commercial products and services in meeting Government requirements.

(5) It is the policy of the System to promote competition in the acquisition process.

(6) The System must perform in a timely, high quality, and cost-effective manner

(7) All members of the Team are required to employ planning as an integral part of the overall process of acquiring products of services. Although advance planning is required, each member of the Team must be flexible in order to accommodate changing or unforeseen mission needs. Planning is a tool for the accomplishment of tasks, and application of its discipline should be commensurate with the size and nature of a given task.

(b) <u>Minimize administrative operating cost</u>.

(1) In order to ensure that maximum efficiency is obtained, rules, regulations, and policies should be promulgated only when their benefits clearly exceed the costs of their development, implementation, administration, and enforcement. This applies to internal administrative processes, including reviews, and to rules and procedures applied to the contractor community.

(2) The System must provide uniformity where it contributes to efficiency or where fairness or predictability is essential. The System should also, however, encourage innovation, and local adaptation where uniformity is not essential.

(c) <u>Conduct business with integrity, fairness, and openness</u>.

(1) An essential consideration in every aspect of the System is maintaining the public's trust. Not only must the System have integrity, but the actions of each member of the Team must reflect integrity, fairness, and openness. The foundation of integrity within the System is a competent, experienced, and well-trained, professional workforce. Accordingly, each member of the Team is responsible and accountable for the wise use of public resources as well as acting in a manner which maintains the public's trust. Fairness and openness require open communication among team members, internal and external customers, and the public.

(2) To achieve efficient operations, the System must shift its focus from "risk avoidance" to one of "risk management." The cost to the taxpayer of attempting to eliminate all risk is prohibitive. The Executive Branch will accept and manage the risk associated with empowering local procurement officials to take independent action based on their professional judgment.

(d) <u>Fulfill public policy objectives</u>. The System must support the attainment of public policy goals adopted by the Congress and the President. In attaining these goals, and in its overall operations, the process shall ensure the efficient use of public resources.

1-102-3 Acquisition Team.

The purpose of defining the Federal Acquisition Team (Team) in the Guiding Principles is to ensure that participants in the System are identified -- beginning with the customer and ending with the contractor of the product or service. By identifying the team members in this manner, teamwork, unity of purpose and open communication among the members of the Team in sharing the vision and achieving the goal of the System are encouraged. Individual team members will participate in the acquisition process at the appropriate time.

1-102-4 Role of the Acquisition Team.

(a) Government members of the Team must be empowered to make acquisition decisions within their areas of responsibility, including selection, negotiation, and administration of contracts consistent with the Guiding Principles. In particular, the contracting officer must have the authority to the maximum extent practicable and consistent with law to determine the application of rules, regulations, and policies, on a specific contract.

(b) The authority to make decisions and the accountability for the decisions made will be delegated to the lowest level within the System, consistent with law.

(c) The Team must be prepared to perform the functions and duties assigned. The Government is committed to provide training, professional development, and other resources necessary for maintaining and improving the knowledge, skills, and abilities for all Government participants on the Team, both with regard to their particular area of responsibility within the System, and their respective role as team member. The contractor community is encouraged to do likewise.

(d) The System will foster cooperative relationships between the Government and its contractors consistent with its overriding responsibility to the taxpayers.

(e) The FAR outlines procurement policies and procedures that are used by members of the Acquisition Team. If a policy or procedure, or a particular strategy or practice, is in the best interest of the Government and is not specifically addressed in the FAR, nor prohibited by law (statute or case law), Executive order or other regulation, Government members of the Team should not assume it is prohibited. Rather, absence of direction should be interpreted as permitting the Team to innovate and use sound business judgment that is otherwise consistent with law and within the limits of their authority.

CHAPTER B

VALUE ENGINEERING RELATED

GUIDANCE & REGULATIONS

OMB Circular No. A-131

Value Engineering

May 21, 1993

1. Purpose. This Circular requires Federal Departments and Agencies to use value engineering (VE) as a management tool, where appropriate, to reduce program and acquisition costs.

2. Supersession Information. This Circular supersedes and cancels OMB Circular No. A-131, Value Engineering, dated January 26, 1988.

3. Authority. This Circular is issued pursuant to 31 U.S.C.1111.

4. Background. For the purposes of this Circular, value analysis, value management, and value control are considered synonymous with VE. VE is an effective technique for reducing costs, increasing productivity, and improving quality. It can be applied to hardware and software; development, production, and manufacturing; specifications, standards, contract requirements, and other acquisition program documentation; facilities design and construction. It may be successfully introduced at any point in the life-cycle of products, systems, or procedures. VE is a technique directed toward analyzing the functions of an item or process to determine "best value," or the best relationship between worth and cost. In other words, "best value" is represented by an item or process that consistently performs the required basic function and has the lowest total cost. In this context, the application of VE in facilities construction can yield a better value when construction is approached in a manner that incorporates environmentally-sound and energy-efficient practices and materials.

VE originated in the industrial community, and it has spread to the Federal Government due to its potential for yielding a large return on investment. VE has long been recognized as an effective technique to lower the Government's cost while maintaining necessary quality levels. Its most extensive use has been in Federal acquisition programs.

An August 1991 recent audit of VE in the Federal Government by the President's Council on Integrity and Efficiency concluded that more can and should be done by Federal agencies to realize the benefits of VE. Reports issued by the General Accounting Office and agency Inspectors General have also consistently concluded that greater use of this technique would result in additional savings to the Government.

5. Relationship to other management improvement processes. VE is a management tool that can be used alone or with other management techniques and methodologies to improve operations and reduce costs. For example, the total quality management process can include VE and other cost cutting-techniques, such as life-cycle costing, concurrent engineering, and design-to-cost, approaches, by using these techniques as analytical tools in process and product improvement.

VE contributes to the overall management objectives of streamlining operations, improving quality, reducing costs, and can result in the increased use of environmentally-sound and energy-efficient practices and materials. The complementary relationship between VE and other management techniques increases the likelihood that overall management objectives are achieved.

6. Definitions.

a. Agency. As used in this Circular, the term "agency" means an Executive department or an independent establishment within the meaning of sections 101 and 104(1), respectively, of Title 5, United States Code.

b. Life-cycle cost. The total cost of a system, building, or other product, computed over its useful life. It includes all relevant costs involved in acquiring, owning, operating, maintaining, and disposing of the system or product over a specified period of time, including environmental and energy costs.

c. Cost savings. A reduction in actual expenditures below the projected level of costs to achieve a specific objective.

d. Cost avoidance. An action taken in the immediate time frame that will decrease costs in the future. For example, an engineering improvement that increases the mean time between failures and thereby decreases operation and maintenance costs is a cost avoidance action.

e. In-house savings. Net life-cycle cost savings achieved by in-house agency staff using VE techniques.

f. Contracted savings. Net life-cycle cost savings realized by contracting for the performance of a VE study or by a Value Engineering Change Proposal submitted by a contractor.

g. Total Quality Management (TQM). A customer-based management philosophy for improving the quality of products and increasing customer satisfaction by restructuring traditional management practices. An integral part of TQM is continuous process improvement, which is achieved by using analytical techniques to determine the causes of problems. The goal is not just to fix problems but to improve processes so that the problems do not recur. Value engineering can be used as an analytical technique in the TQM process.

h. Value Engineering. An organized effort directed at analyzing the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life-cycle cost consistent with required performance, reliability, quality, and safety. These organized efforts can be performed by both in-house agency personnel and by contractor personnel.

I. Value Engineering Change Proposal (VECP). A proposal submitted by a contractor under the VE provisions of the Federal Acquisition Regulations (FAR) that, through a change in a project's plans, designs, or specifications as defined in the contract, would lower the project's life-cycle cost to the Government.

j. Value Engineering Proposal (VEP). An in-house agency-developed proposal, or a proposal developed by a contractor under contract to provide VE services, to provide VE studies for a Government project/program.

7. Policy. Federal agencies shall use VE as a management tool, where appropriate, to ensure realistic budgets, identify and remove nonessential capital and operating costs, and improve and maintain optimum quality of program and acquisition functions. Senior management will establish and maintain VE programs, procedures and processes to provide for the aggressive, systematic development and maintenance of the most effective, efficient, and economical and environmentally-sound arrangements for conducting the work of agencies, and to provide a sound basis for identifying and reporting accomplishments.

8. Agency responsibilities. To ensure that systemic VE improvements are achieved, agencies shall, at a minimum:

a. Designate a senior management official to monitor and coordinate agency VE efforts.

b. Develop criteria and guidelines for both in-house personnel and contractors to identify programs/projects with the most potential to yield savings from the application of VE techniques. The criteria and guidelines should recognize that the potential savings are greatest during the planning, design, and other early phases of project/program/system/product development. Agency guidelines will include:

(1) Measuring the net life-cycle cost savings from value engineering. The net life-cycle cost savings from value engineering is determined by subtracting the Government's cost of performing the value engineering function over the life of the program from the value of the total saving generated by the value engineering function.

(2) Dollar amount thresholds for projects/programs requiring the application of VE. The minimum threshold for agency projects and programs which require the application of VE is $1 million. Lower thresholds may be established at agency discretion for projects having a major impact on agency operations.

(3) Criteria for granting waivers to the requirement to conduct VE studies, in accordance with the FAR 48.201(a).

(4) Guidance to ensure that the application of VE to construction projects/programs and other projects/programs, will include consideration of environmentally-sound and energy efficient considerations to arrive at environmentally-sound and energy efficient results.

c. Assign responsibility to the senior management official designated pursuant to section 8a above, to grant waivers of the requirement to conduct VE studies on certain programs and projects. This responsibility may be delegated to other appropriate officials.

d. Provide training in VE techniques to agency staff responsible for coordinating and monitoring VE efforts and for staff responsible for developing, reviewing, analyzing, and carrying out VE proposals, change proposals, and evaluations.

e. Ensure that funds necessary for conducting agency VE efforts are included in annual budget requests to OMB.

f. Maintain files on projects/programs/systems/products that meet agency criteria for requiring the use of VE techniques. Documentation should include reasons for granting waivers of VE studies on projects/programs which met agency criteria. Reasons for not implementing recommendations made in VE proposals should also be documented.

g. Adhere to the acquisition requirements of the FAR, including the use of VE clauses set forth in Parts 48 and 52.

h. Develop annual plans for using VE in the agency. At a minimum, the plans should identify both the in-house and contractor projects, programs, systems, products, etc., to which VE techniques will be applied in the next fiscal year, and the estimated costs of these projects. These projects should be listed by category, as required in the agency's annual report to OMB. VEP's and VECP's should be included under the appropriate category. Annual plans will be made available for OMB review upon request.

i. Report annually to OMB on VE activities, as outlined below.

9. Reports to OMB. Each agency shall report the Fiscal Year results of using VE annually to OMB, except those agencies whose total budget is under $10 million or whose total procurement obligations do not exceed $10 million in a given fiscal year. The reports are due to OMB by December 31st of the calendar year, and should include the current name, address, and telephone number of the agency's VE manager.

Part I of the report asks for net life-cycle cost savings achieved through VE. In addition, it requires agencies to show the project/program dollar amount thresholds the agency has established for requiring the use of VE if greater than $1 million. If thresholds vary by category, show the thresholds for all categories. Savings resulting from VE proposals and VE change proposals should be included under the appropriate categories.

Part II asks for a description of the top 20 fiscal year VE projects (or all projects if there are fewer than 20). List the projects by title and show the net life-cycle cost savings and quality improvements achieved through application of VE.

Part III requires agencies to submit a detailed schedule of year-by-year cost savings, cost avoidances and cost sharing with contractors for each program/project for which the agency is reporting cost savings or cost avoidances. The aggregate total of all schedules shall equal the totals reported in Part I.A. of the annual report.

10. Inspectors General audits. Two years after the issuance of this revised Circular, Agency Heads shall ask the Inspectors General (IGs) to audit agency value engineering programs to (1) validate the accuracy of agency reported value engineering savings and (2) assess the adequacy of agency value engineering policies, procedures and implementation of this revised Circular. Periodically thereafter, agency IGs shall audit agency reported VE savings as the need arises.

11. Related Guidance. In general, value engineering investments should have positive net present value when discounted with the appropriate interest rate, as described in OMB Circular No. A-94, section 8.c. For detailed guidance on value engineering, refer to the appropriate sections of the Federal Acquisition Regulations.

12. Effective date and Implementation. This Circular takes effect within 30 days of its publication in the Federal Register. Heads of departments and agencies are responsible for

taking all necessary actions to assure effective implementation of these policies, such as disseminating this Circular to appropriate program and other staff, developing implementation strategies and initiating staff training. Since these policies must be implemented in the Federal Acquisition Regulation (FAR), agencies should not duplicate the development of implementing procurement regulations being undertaken by the Federal Acquisition Regulatory Councils. However, implementation of these policies in the FAR must be accomplished within the time period specified below, with inclusion in agency solicitations and resulting contracts, as appropriate, to occur immediately thereafter.

Pursuant to subsections 6(a) of the Office of Federal Procurement Policy Act, as amended, (41 U.S.C.401 et seq.), the Federal Acquisition Regulatory Councils shall ensure that the policies established herein are incorporated in the FAR within 180 days from the date this Circular is published in final form in the Federal Register. Promulgation of final FAR regulations within that 180 day period shall be considered issuance in a "timely manner" as prescribed in 41 USC 405(b)."

13. Sunset review. The policies contained in this Circular will be reviewed by OMB five years from the date of issuance.

14. Inquiries. Further information about this Circular may be obtained from the Office of Management and Budget (OMB), 725 17th Street, NW, Washington, DC 20503, Telephone (202) 395-6803.

/Signed/

Leon Panetta
Director

ATTACHMENT

Attachment: Page 1/3

AGENCY FISCAL YEAR XXXX
ANNUAL VALUE ENGINEERING REPORT

PART I.
Name, Title, Address and Phone Number of
Agency Senior Official Responsible for VE Program:

Agency VE Expenditures ($'s invested in VE this fiscal year): $________

Dollar Share of Savings Provided to Contractors:$________

Dollar Thresholds for each VE category (if different from $1 million):

TOTAL AGENCY NET LIFE-CYCLE COST SAVINGS ATTRIBUTABLE TO VE:

A. Summary of cost savings and avoidances reported by category (See B. below):

Cost Savings		Cost Avoidance			
In-House	Contractor	In-House	Contractor	Total Savings +Avoidance	Grand Total In-house + Contractor Savings + Avoidance

B. Total Agency VE Net Life-Cycle Cost Savings and Cost Avoidances by Category:

Category	Cost Savings		Cost Avoidance			
	In-House	Contractor	In-House	Contractor	Total Savings +Avoidance	Grand Total In-house + Contractor Savings + Avoidance
1. Acquisition						
2. Administrative						
3. Other (be specific)						
a.						
b.						
c.						

C. Please describe the steps you have taken to validate the reported cost savings, whether through IG audit or other measures. Attach additional sheets, if necessary.

Attachment: Page 2/3

AGENCY FISCAL YEAR XXXX
ANNUAL VALUE ENGINEERING REPORT

PART II.

VE PROJECT DESCRIPTION

List the top 20 VE projects by name. Show the VE expenditures, VE savings, and VE cost avoidances.
Describe any quality or other non-quantifiable improvements resulting from VE.

PROJECT TITLE*	VE Expenditures		Cost Savings		Cost Avoidance	
	In-house	Contractor	In-House	Contractor	In-House	Contractor

*Description of Quality or other Non-Quantifiable Improvements:**

*Use additional sheets as necessary to include top 20 VE projects. Also, for each project listed, indicate what steps you have taken to validate the reported cost savings, whether through IG audit or other measures.

Attachment: Page 3/3

PART III.

AGENCY FISCAL YEAR XXXX
ANNUAL VALUE ENGINEERING REPORT

PROGRAM/PROJECT NAME: CONSTRUCTION OF JOHN DOE BRIDGE

	1994	1995	1996	1997	1998	1999	2000
1. Cost Savings:							
2. Cost Avoidance:							
3. Dollar Share of Savings Provided to Contractors:							
4. VE Expenses Attributable to this Program/Project: (including a pro rata share of Salary/Expenses)							

5. For programs/projects not discussed in part II of the report, please discuss what steps you have taken to validate the reported cost savings, whether through IG audits or other measures. Attach additional sheets if necessary.

FEDERAL ACQUISITION CIRCULAR

July 26, 1996 **Number 90-40**

Federal Acquisition Circular (FAC) 90-40 is issued under the authority of the Secretary of Defense, the Administrator of General Services, and the Administrator for the National Aeronautics and Space Administration. Unless otherwise specified, all Federal Acquisition Regulation (FAR) and other directive material contained in FAC 90-40 are effective September 24, 1996, except for Items III, VI thru VIII, and XIII, which are effective July 26, 1996, and Items II and XIV, which are effective August 26, 1996.

FAC 90-40; FAR Case 96-315; Item XIV

SUMMARY: The Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council have agreed on a final rule to amend the Federal Acquisition Regulation (FAR) to revise the definition of value engineering and to require agencies to establish and maintain cost-effective value engineering procedures and processes. This regulatory action was not subject to Office of Management and Budget review under Executive Order 12866, dated September 30, 1993, and is not a major rule under 5 U.S.C. 804.

EFFECTIVE DATE: August 26, 1996.

FOR FURTHER INFORMATION CONTACT: Mr. Peter O'Such (202) 501-1759 in reference to this FAR case. For general information, contact the FAR Secretariat, Room 4037, GS Building, Washington, DC 20405 (202) 5014755. Please cite FAC 90-40, FAR case 96-315.

SUPPLEMENTARY INFORMATION:

A. Background

This final rule implements Section 4306 of the Federal Acquisition Reform Act of 1996 (Pub. L. 104-106). Section 4306 adds Section 36 to the Office of Federal Procurement Policy Act (41 U.S.C. 401, et seq.) to define value engineering and to establish Federal procurement policy that each agency shall establish and maintain cost-effective value engineering procedures and processes.

B. Regulatory Flexibility Act

The final rule does not constitute a significant FAR revision within the meaning of FAR 1.501 and Public Law 98-577, and publication for public comments is not required. Therefore, the Regulatory Flexibility Act does not apply. However, comments from small entities concerning the affected FAR subpart will be considered in accordance with 5 U.S.C. 610. Such comments must be submitted separately and cite 5 U.S.C. 601, et seq. (FAC 90-40, FAR case 96-315), in correspondence.

C. Paperwork Reduction Act

The Paperwork Reduction Act does not apply because the changes to the FAR do not impose recordkeeping or information collection requirements, or collections of information from offerors, contractors, or members of the public which require the approval of the Office of Management and Budget under 44 U.S.C. 3501, et seq.

Edward C. Loeb,
Director, Federal Acquisition Policy Division.
July 16, 1996.

PART 48--VALUE ENGINEERING

1. The authority citation for 48 CFR Part 48 continues to read as follows: Authority: 40 U.S.C. 486(c); 10 U.S.C. chapter 137; and 42 U.S.C. 2473(c).

2. Section 48.001 is amended by revising the definition ``Value engineering'' to read as follows:

48.001 Definitions.

* * * * *

Value engineering, as used in this part, means an analysis of the functions of a program, project, system, product, item of equipment, building, facility, service, or supply of an executive agency, performed by qualified agency or contractor personnel, directed at improving performance, reliability, quality, safety, and life-cycle costs (Section 36 of the Office of Federal Procurement Policy Act, 41 U.S.C. 401, et seq.)♣.

* * * * *

3. Section 48.102 is amended in paragraph (a) by adding a new first sentence to read as follows:

48.102 Policies.

(a) As required by Section 36 of the Office of Federal Procurement Policy Act (41 U.S.C. 401, et seq.), agencies shall establish and maintain cost-effective value engineering procedures and processes. * * *

♣FAC 97-22 Delay, moved this definition from FAR 48.001 to FAR 2.101

THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3010

ACQUISITION AND
TECHNOLOGY

AUG 13 1996

MEMORANDUM FOR DISTRIBUTION

SUBJECT: FY 1996-97 DoD Value Engineering (VE) Strategic Plan

The subject plan is forwarded for issue and implementation by all Services and Defense Agencies. The plan was developed at the direction of my office and under the authority of the DoD VE Executive Steering Group. The plan is intended to provide a DoD VE Program reflecting the policies of the Office of Management and Budget (OMB) Circular A-131, "Value Engineering". This plan focuses on the exploitation of VE by DoD Program and Acquisition Managers to eliminate unnecessary requirements and reduce life cycle costs. VE is one viable means for us to meet our operational requirements under the reality of a constrained Defense Budget.

The plan reflects the DoD VE policy to manage the program centrally within the Department, Services and Agencies while the individual Program/Acquisition Managers are responsible for ensuring VE is effectively implemented on their DoD acquisition programs and projects. One notable objective is to increase the use of VE in our Major Defense Acquisition Programs (MDAPs).

The plan includes Service/Agency reporting requirements for FY 1996 and 1997. The report will describe implementation of the plan and results achieved. The report is due to me 45 days after the close of the fiscal year so that the Department's report can reach OMB as required by December 31.

Questions should be referred to the DoD VE Program Manager, Larry Paulson at (703)681-4535.

Paul Kaminski

Paul G. Kaminski

Attachment

DISTRIBUTION:

Assistant Secretary of the Army (Research, Development & Acquisition)
Assistant Secretary of the Navy (Research, Development & Acquisition)
Assistant Secretary of the Air Force (Acquisition)
Director, Defense Logistics Agency
Director, Defense Commissary Agency
Director, Defense Contract Audit Agency
Director, Defense Finance & Accounting Service
Director, Defense Information Systems Agency
Director, Defense Intelligence Agency
Director, Defense Investigative Service
Director, Defense Legal Services Agency
Director, Defense Mapping Agency
Director, Defense Nuclear Agency
Director, Defense Security Assistance Agency
Director, National Security Agency
Director, On-Site Inspection Agency
Director, Ballistic Missile Defense Organization
Commander, Defense Contract Management Command

DEPARTMENT OF DEFENSE

DOD

VE

VALUE ENGINEERING STRATEGIC PLAN

FY 1996-97

FY 1996-97 Department of Defense Value Engineering Strategic Plan

Mission Statement: The Department of Defense (DoD) Value Engineering (VE) program provides a viable management tool to improve quality while controlling or reducing costs across the entire spectrum of DoD systems, processes, and organizations through the application of function analysis methodology.

Vision: Value Engineering, a widely used customer-oriented management tool, in high demand, helping to build the world's most effective and efficient armed forces at the lowest possible cost.

Scope: This plan will be reviewed and updated annually. This plan applies to all DoD Departments and Agencies including but not limited to:

Department of the Army
Department of the Navy
Department of the Air Force
Defense Logistics Agency
Defense Commissary Agency
Defense Contract Audit Agency
Defense Finance & Accounting Service
Defense Information Systems Agency
Defense Intelligence Agency
Defense Investigative Service
Defense Legal Services Agency
Defense Contract Management Command
Defense Mapping Agency
Defense Nuclear Agency
Defense Security Assistance Agency
National Security Agency
On-Site Inspection Agency
Ballistic Missile Defense Organization

Organization and Management:

The Under Secretary of Defense (Acquisition) (USD(A)) memorandum of December 10, 1993, established the DoD VE Executive Steering Group (ESG). The ESG is chaired by the Director, Test, Systems Engineering and Evaluation and consists of Senior Executive Service (SES)/Flag-rank representatives for each Service and Defense Agency. The ESG is tasked to develop a comprehensive, coordinated, but realistic, DoD VE program to reduce nonessential program and acquisition costs, reflecting the statutory requirements in the "National Defense Authorization Act for Fiscal Year 1996," Section 4306, and policies outlined by the Office of Management and Budget (OMB) Circular A-131, "Value Engineering". The DoD VE Quality Management Board (QMB), consisting of the VE Program Managers for the Office of the Secretary of Defense (OSD), Services, and Defense Agencies, is a working group that serves as the implementing arm for the ESG. Attachment 1 is an organization chart.

Implementation Responsibility:

The QMB will have primary responsibility for implementation of this overall DoD VE plan. Each Service and Defense Agency will be responsible for development and implementation of their own internal VE plan in alignment with and support of the Goals and Objectives of this DoD strategic plan as approved by the ESG (see Objective 1.1.1. below). The DoD VE Program is implemented and administered centrally within DoD, the Services and Agencies, with actual execution occurring at the individual acquisition/project/procurement manager level. These managers shall determine the VE application approach to be used in their area of authority (program / project / procurement). This approach shall be documented in their Acquisition Strategy/Project Plan/Procurement Plan, and submitted to their designated Acquisition/Project/ Procurement Decision Authority for review and approval. Attachment 2 is an implementation process flow chart.

<u>Goal 1. Develop consistent DoD VE results-oriented focus</u>

<u>Objectives</u>

1.1. Implement the guidance in the "National Defense Authorization Act for Fiscal Year 1996" and OMB Circular A-131 as modified by the DoD VE ESG (Attachment 3) consistently throughout DoD. Responsibility: Service/Agency, Program Executive Officer (PEO), Program Manager (PM), Acquisition Manager (AM). Due Date: 90 days after USD(A&T) issues this plan.

1.1.1. Services and Defense Agencies will include in their annual report (Attachment 4) to DoD, a description of how they have implemented this plan internally. Responsibility: Service/Agency. Due Date: 45 days after close of fiscal year (15 Nov).

1.2. Build cohesive integrated DoD VE Management Structure.

1.2.1. Formalize and mature the ESG planning, review, and approval processes. Responsibility: ESG/QMB. Due Date: On-going.

1.2.2. Develop QMB charter defining roles and responsibilities. Responsibility: ESG/QMB. Due Date: 90 days after USD(A&T) issues this plan.

1.3. Establish VE program funding. VE will be administered centrally but managed and funded at the program/project/procurement level. Responsibility: Service/Agency PEO/PM/AM. Due Date: First budget cycle after USD(A&T) issues this plan.

1.4. Improve VE Program Assessment Tools.

1.4.1. Develop metrics and measurements to assess VE program processes and results. Responsibility: ESG/QMB. Due Date: On-going, based on current annual report.

1.4.2. Improve the quality, timeliness and utility of VE annual reports. Responsibility: ESG/QMB. Due Date: On-going, based on current annual report.

1.5. Encourage expansion of VE.

1.5.1. Recognize VE accomplishments.

1.5.1.1. Hold annual DoD VE Achievement Awards ceremony. Responsibility: ESG/QMB. Due Date: Spring time-frame.

1.5.1.2. Review VE award criteria to ensure it promotes growth of scope and application. Responsibility: ESG/QMB. Due Date: Prior to annual request for award nominees (Oct).

1.5.2. Inform/Publicize VE activities.

1.5.2.1. Participate in professional conferences and seminars (i.e., annual International Conference of the Society of American Value Engineers). Responsibility: OSD/Service/Agency VE personnel. Due Date: On-going.

1.5.2.2. Develop and publish a brochure highlighting top VE accomplishments (i.e., Army Materiel Command, US Army Corps of Engineers). Responsibility: ESG/QMB. Due Date: Feb 97.

1.5.2.3. Establish DoD VE conference. Responsibility: ESG/QMB. Due Date: Mar 97.

1.5.2.4. Develop DoD VE display for exhibition at conferences, Congressional Reception, Pentagon, etc. Responsibility: ESG/QMB. Due Date: Prior to Mar 97.

<u>Goal 2. Increase VE benefits</u>

<u>Objectives</u>

2.1. Increase acquisition cost savings and cost avoidances from Contractor developed Value Engineering Change Proposals as per FAR Part 48. The total savings goal will be established at 1% of Total Obligational Authority.

2.1.1. Increase Major Defense Acquisition Program (MDAP) VE participation..

2.1.1.1. Address VE as part of all milestone reviews for MDAP programs. Responsibility: Acquisition Executives, PEO/PM/AM. Due Date: On-going.

2.1.1.2. Develop VE guidance for DoD Acquisition Deskbook. Responsibility: ESG/QMB. Due Date: Next deskbook revision.

2.1.1.3. Encourage and facilitate MDAP programs to adopt the VE management tool. Goal is to have documented VE activity in 100% of MDAP programs. Responsibility: Acquisition Executives, PEO/PM/AM, ESG/QMB. Due Date: Sep 97.

2.1.2. Promote the use of VE to reduce acquisition life cycle costs. Responsibility: Acquisition Executives, PEO/PM/AM, ESG/QMB. Due Date: On-going.

2.1.3. Assure FAR language supports VE efforts.

2.1.3.1. Develop and support FAR VE process improvement cases. Responsibility: ESG/QMB. Due Date: As needed.

2.1.3.2. Incorporate beneficial FAR deviations in FAR rewrite language. Responsibility: Director, Defense Procurement (DDP); DTSE&E; Defense Acquisition Regulation (DAR) Council. Due Date: As needed.

2.1.4. Improve VE guidance to DoD contractors.

2.1.4.1. Update existing VE contractor guide. Responsibility: Defense Logistics Agency (DLA). Due Date: Mar 97.

2.1.4.2. Update DoD VE Points of Contact. Responsibility: QMB. Due Date: As needed.

2.1.4.3. Develop Government-Industry panel for presentation at seminars and conferences to encourage and facilitate greater contractor VE participation. Responsibility: ESG/QMB. Due Date: Mar 97.

2.1.5. Stimulate greater contractor participation and improve VECP process.

2.1.5.1. Build DoD-Industry forums to focus on value-added DoD and Industry mutually beneficial results. Responsibility: ESG/QMB. Due Date: On-going.

2.2. Increase cost savings, cost avoidances, and other benefits from Value Engineering Proposals developed by DoD military or civilians, or VE consultants. The total savings goal will be established at 1% of Total Obligational Authority.

2.2.1. Increase participation/customer base of VE users. Responsibility: ESG/QMB. Due Date: On-going.

2.2.2. Expand the scope of applicability of VE. Responsibility: ESG/QMB. Due Date: On-going.

2.3. Increase cost savings, cost avoidances, and other benefits from VE activities applied to facilities design and construction.

2.3.1. Provide formal in-house or Architect-Engineer VE studies on all projects with estimated construction costs of 2 million dollars and greater. Responsibility: ESG/QMB military construction proponents. Due Date: On-going.

2.3.2. Assign a dollar savings goal of six percent of the total estimated cost of the projects studied under paragraph 2.3.1. above. Responsibility: ESG/QMB military construction proponents. Due Date: On-going.

<u>Goal 3. Increase VE Expertise</u>

<u>Objectives</u>

3.1. Develop VE competencies and training requirements. Responsibility: ESG/QMB, Defense Acquisition University (DAU). Due Date: Jun 97.

3.2. Identify, catalog, and assess VE training sources (DoD, federal, commercial) . Responsibility: ESG/QMB/DAU. Due Date: Begin 90 days after USD(A&T) issues this plan and then on-going.

3.3. Improve support to VE implementers.

3.3.1. Update DoD VE Handbook. Responsibility: ESG/QMB. Due Date: Mar 97.

3.3.2. Establish electronic VE mailbox. Responsibility: QMB. Due Date: 90 days after USD(A&T) issues this plan.

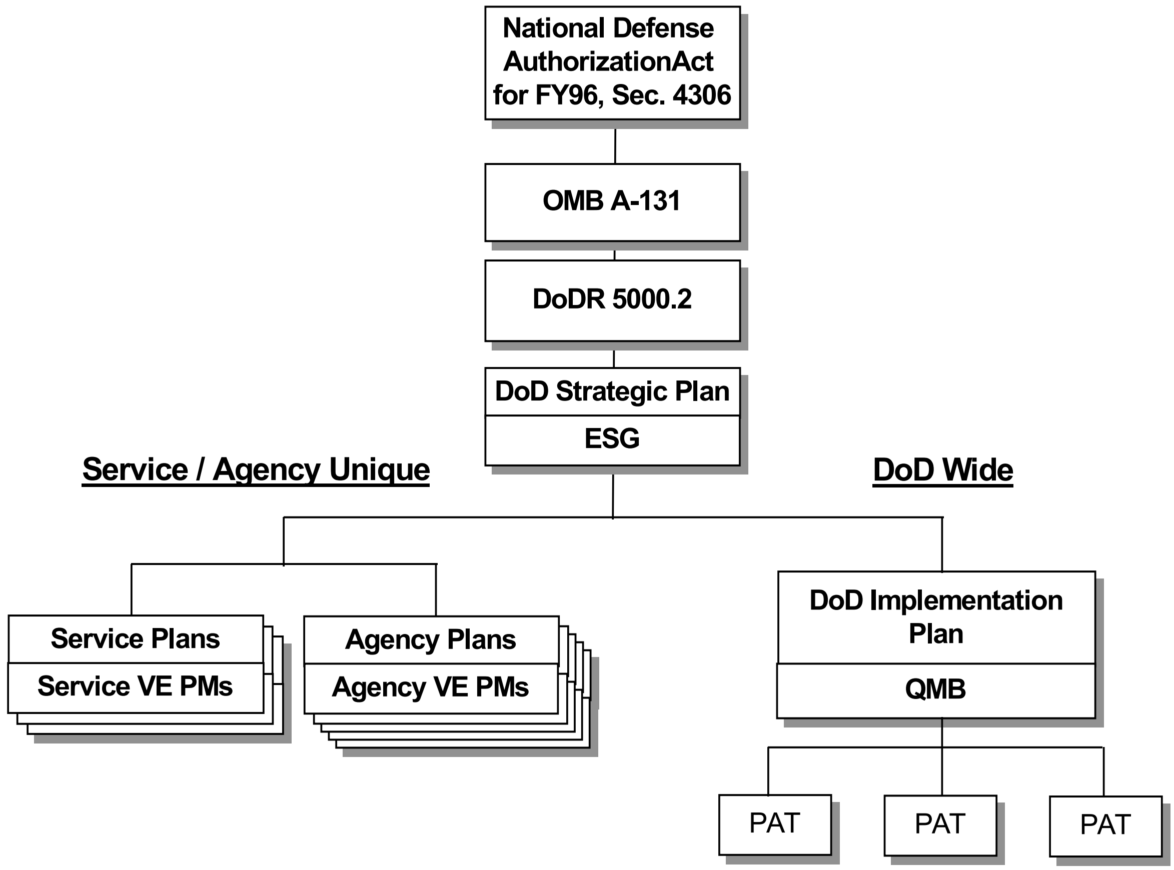
3.3.3. Develop DoD VE HomePage. Responsibility: ESG/QMB. Due Date: Mar 97.

3.3.4. Sponsor DoD VE conference. Responsibility: USD(A&T) via ESG/QMB. Due Date: Mar 97.

3.3.5. Develop Program/Contractor VE facilitation teams. Responsibility: ESG/QMB. Due Date: Mar 97.

1.3.6. Develop/provide/promote VE tools. Responsibility: ESG/QMB/DAU. Due Date: Begin 90 days after USD(A&T) issues this plan and then on-going.

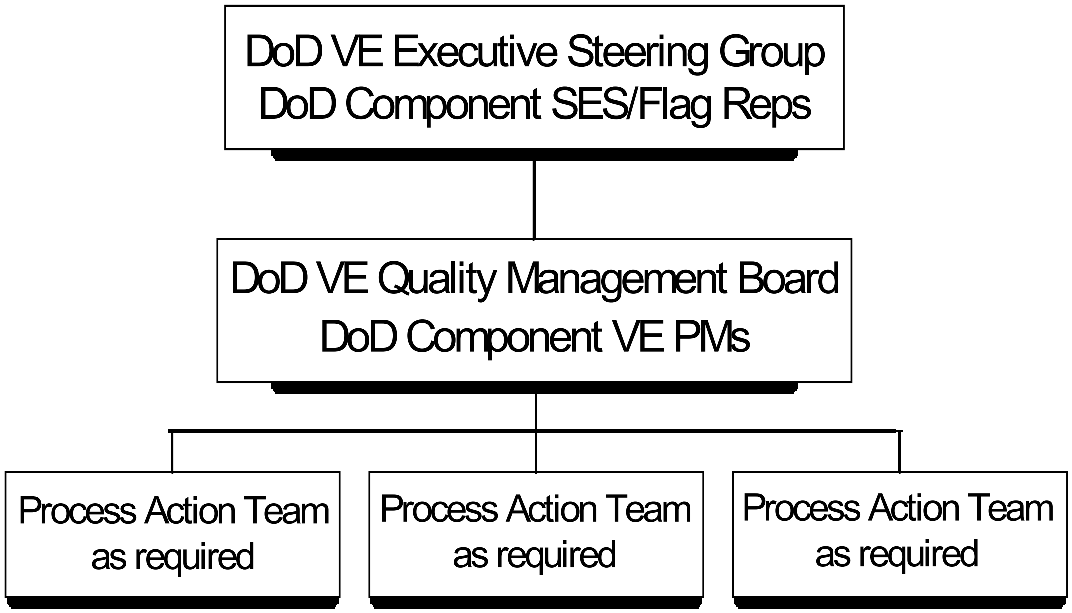
PLANNING & IMPLEMENTATION PROCESS



DoD VE Strategic Plan: Attachment 2

veprcs.ppt

ORGANIZATION



DoD VE Strategic Plan: Attachment 1

veorg.ppt

OMB A-131: Policy and Responsibilities as modified by DoD VE ESG

Policy. Services and Defense Agencies shall use VE as a management tool, where appropriate, to ensure realistic budgets, identify and remove nonessential capital and operating costs, and improve and maintain optimum quality of program and acquisition functions. Senior management will establish and maintain VE programs, procedures and processes to provide for the aggressive, systematic development and maintenance of the most effective, efficient, and economical and environmentally-sound arrangements for conducting the work of agencies, and to provide a sound basis for identifying and reporting accomplishments.

Responsibilities. To ensure that systemic VE improvements are achieved, Services/Agencies shall, at a minimum:

I. Designate a senior management official to monitor and coordinate VE efforts.

II. Develop criteria and guidelines for both in-house personnel and contractors to identify programs/projects with the most potential to yield savings from the application of VE techniques. The criteria and guidelines should recognize that the potential savings are greatest during the planning, design, and other early phases of project/program/system/product development. Guidelines will include:

   A. Measuring the net life-cycle cost savings from value engineering. Limit life-cycle savings reporting to the period of the current Future Years Defense Plan (FYDP). The net life-cycle cost savings from value engineering are determined by subtracting the Government's cost of performing the value engineering function over the life of the program from the value of the total saving generated by the value engineering function.

   B. Selection criteria shall include as a minimum programs/projects/procurements: designated ACAT I/II programs per DoD 5000.2-R in Engineering and Manufacturing Development (EMD) and Production; exceeding 0.1% of Service/Agency Total Obligation Authorities (TOAs) for categories of Procurement, O&M, and MILCON; and/or deemed a complex system or using advancing technology; or included by management direction.

   C. Guidance to ensure that the application of VE to construction projects/programs and other projects/programs, will include consideration of environmentally-sound and energy efficient considerations to arrive at environmentally-sound and energy efficient results. Army Corps of Engineers will provide guidelines in coordination with Naval Facility Engineering Command.

III. The cognizant Acquisition Decision Authority for the Service or Agency (Milestone Decision Authority for Weapons System Programs, other programs/procurements as appropriate) shall be the sole VE requirement waiver authority for those Department of Defense acquisitions/procurements meeting the minimum threshold criteria requirements discussed in para. 2.b) above. This Decision Authority shall ensure all acquisitions/procurements under their cognizance, meeting these thresholds, shall implement and perform all necessary VE studies required by this plan. The decision not to perform these studies shall be made on a case by case basis and the rationale to waive an acquisition/procurement shall be fully supported and a record maintained of all such waivers with the supporting rationale.

IV. Each Service/Agency shall provide the necessary training for both the application of VE principles and the contractual implementation of VE change proposals (VECPs) for all personnel performing duties related to VE.

V. VE will be administered centrally but managed and funded at program, project, or procurement level.

VI. Maintain files on projects/programs/systems/products that meet agency criteria for requiring the use of VE techniques. Documentation should include reasons for granting waivers of VE studies on projects/programs that met agency criteria. Reasons for not implementing recommendations made in VE proposals should also be documented.

VII. Adhere to the acquisition requirements of the FAR, including the use of VE clauses set forth in Parts 48 and 52.

VIII. DoD VE QMB will update the DoD VE Strategic Plan for ESG review/approval by June 15 each year.

IX. Report annually to the USD(A&T) on VE activities.

<u>Inspector General (IG) audits</u>. Periodically, Service/Agency IGs should audit reported VE savings as the need arises.

<u>Related Guidance</u>. In general, value engineering investments should have positive net present value when discounted with the appropriate interest rate, as described in OMB Circular No. A-94, section 8.c.

Annual Value Engineering (VE) Report

The DoD Components should compile and submit an annual statistical summary of their value engineering efforts as outlined below. The report should be aggregated and broken out by major commands/centers. Major Defense Acquisition Programs (MDAPs) should also be listed showing the same information. This report should cover the entire fiscal year and be submitted to the Under Secretary of Defense (Acquisition & Technology) 45 days after the close of the fiscal year. A reporting system is necessary to measure VE program performance for the purpose of continuous and systematic improvement in accordance with the "National Defense Authorization Act for Fiscal Year 1996" and OMB Circular A-131.

I. In-House initiated/generated VE Proposals (VEPs)
   A. How many workshops/studies/projects were initiated?
   B. How many proposals were submitted for approval?
   C. How many proposals were approved?
   D. What was the average number of days to process each proposal?
   E. What was the combined savings ($M)?
      1. Procurement?
      2. Life Cycle?
   F. What was the total investment ($M)?
   G. What was the ROI (xx:1)?

II. Contractor submitted VE Change Proposals (VECPs)
   A. How many VE Program Requirement clauses were placed in contracts?
   B. How many proposals were submitted for approval?
   C. How many proposals were approved?
   D. What was the average number of days to process each proposal?
   E. How many proposals took longer than 45 days to process?
   F. What was the combined savings ($M)?
      1. Procurement?
      2. Life Cycle?
   G. What was the total investment ($M)?
   H. What was the ROI (xx:1)?

III. Manpower. How many people are assigned full-time or provide part-time support to VE in your component?
   A. Full-time?
   B. Other support (work years)?
   C. Total?

IV. Training. Identify the number of people in your component receiving VE training in this fiscal year.

A. PAVE - Principles & Applications of VE or equivalent (approx. 40 hours)?

B. CAVE - Contractual Aspects of VE or equivalent (approx. 40 hours)?

C. Intro - Introduction to VE (less than 40 hours)?

D. Total?

V. Description of accomplishments

A. Description of how the DoD VE Strategic Plan has been implemented internally.

B. Efforts to increase contractor participation in VE.

C. Description of top VE projects, to include the number of VEPs/VECPs submitted, the number approved and the net savings to both the Government and to the contractor, as appropriate.

Notes:

Workshop/Study/Project. May be reported as an in-house value engineering study if: 1) identified as a value engineering project before presentation of specific proposal for decisions; or 2) evidence of the application of elements of the value engineering discipline is available (such as function analysis, evaluation of worth, cost comparisons).

Savings. Defined as a reduction in or the avoidance of expenditures that would have been incurred except for the use of VE. Savings should be a compilation of procurement actuals for the current fiscal year and estimates for two additional years (or three-year actuals if available), and one years typical life cycle savings multiplied by the number of years the item appears in the current FYDP. Both procurement and life cycle (collateral) savings should be calculated in accordance with FAR 42.248-1(g). The savings reported for VE actions implemented during the fiscal year should be the savings to the DoD. The actual savings and projected estimates should be documented and auditable. Estimates should be documented with appropriate analyses and based on planning or production documentation current at the time the VEP/VECP is accepted. Records should be available for review in respective field offices.

Investment. Estimates should include salaries and overhead expenses of value engineering employees, value engineering training costs, costs for contracting for value engineering services, VEP or VECP development and implementation costs, and any other costs directly associated with your value engineering program. Overhead may be estimated at 50% of salaries.

Return on Investment (ROI). Determined by dividing the government's cost of performing the value engineering function to include any contractor reimbursable costs, into the combined reported procurement and life cycle VE savings to the government generated by the function.

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OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

June 10, 1997

DP/DSPS

MEMORANDUM FOR DIRECTOR OF DEFENSE AGENCIES
DEPUTY FOR ACQUISITION AND BUSINESS MANAGEMENT, ASN (RD&A)/ABM
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE (CONTRACTING), SAF/AQC
ASSISTANT DEPUTY ASSISTANT SECRETARY OF THE ARMY (PROCUREMENT) /DIRECTOR FOR CONTRACTING
DEPUTY DIRECTOR (ACQUISITION), DEFENSE LOGISTICS AGENCY

SUBJECT: Value Engineering Change Proposals - Action to Facilitate Implementation

My memorandum of April 10, 1997, authorized a two year deviation from Federal Acquisition Regulation (FAR) requirements to encourage value engineering through increased incentives. The purpose of this memorandum is to clarify the policy on pricing value engineering changes.

The Value Engineering Process Action Team (VEPAT) reported to the Defense Manufacturing Council (DMC) in March, 1997 that a barrier to value engineering implementation is the time required for pricing changes. A second reported barrier is that procurement policies prevent implementation of a value engineering change proposal before pricing is complete.

Neither the FAR nor the DFARS restrict the implementation of a value engineering change proposal (VECP) before an equitable adjustment is negotiated. FAR 43.204 requires contracting officers to negotiate equitable adjustments resulting from change orders in the shortest practicable time. Defense Federal Acquisition Regulation Supplement (DFARS) 217.7401(a)(2) excludes VECPs from the restriction on the use of undefinitized contract actions.

FAR already permits the VEPAT's recommendation that VECPs be implemented with a not-to-exceed price when the savings exceed government costs by an amount predetermined by the Program Manager. The intent is to realize significant unit cost reductions as early as possible when contractor development and implementation costs can be capped.

/S/
Eleanor R.Spector
Director, Defense Procurement

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Subpart 217.74 - Undefinitized Contract Actions
217.7400 Scope.
This subpart prescribes policies and procedures implementing 10 U.S.C. 2326.
217.7401 Definitions.
As used in this subpart --
(a) "Contract action" means an action which results in a contract.
(1) It includes contract modifications for additional supplies or services.
(2) It does not include change orders, administrative changes, funding modifications, or any other contract modifications that are within the scope and under the terms of the contract, e.g., engineering change proposals, value engineering change proposals, and over and above work requests as described in Subpart 217.77.
(b) "Definitization" means the agreement on, or determination of, contract terms, specifications, and price, which converts the undefinitized contract action to a definitive contract.
(c) "Qualifying proposal" means a proposal containing sufficient information for the DoD to do complete and meaningful analyses and audits of the --
(1) Information in the proposal; and
(2) Any other information that the contracting officer has determined DoD needs to review in connection with the contract.
(d) "Undefinitized contract action" means any contract action for which the contract terms, specifications, or price are not agreed upon before performance is begun under the action. Examples are letter contracts, orders under basic ordering agreements, and provisioned item orders, for which the price has not been agreed upon before performance has begun.
217.7402 Exceptions.
The following undefinitized contract actions (UCAs) are not subject to this subpart, but the contracting officer should apply the policy to them (and to changes under the Changes clause) to the maximum extent practicable --
(a) UCAs for foreign military sales;
(b) Purchases at or below the simplified acquisition threshold;
(c) Special access programs;
(d) Congressionally mandated long-lead procurement contracts.
[DAC 91-10, 61 FR 7739, Feb. 29, 1996]

Contractor Must Absorb Added Costs Associated With Value Engineering Change Proposal…….That Does Not Work

The fixed-price contract required that contractor construct subway tunnels for the Washington Metropolitan Area Transit Authority (WMATA). The contract included a "Value Engineering Incentive" clause that presumably provided that contractor was to receive a share of any cost reductions resulting from contractor-submitted value engineering change proposals (VECPs) that WMATA accepted.

As awarded, the contract called for the construction to be performed using a conventional single ("one-pass") liner system that generally requires various methods of reinforcement. After award, contractor submitted a VECP that evolved into an agreement to use a "two-pass" system calling for installation of an initial precast, reinforced linear followed by a linear of plain, unreinforced, cast-in-place concrete. The substitution of the two-pass system was expected to reduce the contract cost by several million dollars (with contractor's share of the savings set at $1.4 million).

After analyzing the background and terms of the VECP, the Corps of Engineers Board of Contract Appeals, finds that the VECP required that the thickness of the final tunnel liner be no less than 12 inches and that any part of the liner where the thickness was less than 12 inches would have to be reinforced with steel to a safety factor of 2.5 (which would then be equivalent to the strength of a 12-inch thick unreinforced tunnel liner). Contractor, however, was unable to install substantial parts of the final tunnel liner to a thickness of 12 inches because of the tunnels' misalignment during construction.

The Board holds that, under these circumstances, contractor must bear the cost of reinforcing the undersize liner to the specified 2.5 safety factor. Applicable contract VECP provisions place on the proposing contractor the risk that its VECP will be successful and produce a result that is at least equivalent to what was required by the original specifications. H & S Corp., ASBCA 29156, 87-2 BCA ¶ 19764, 29 GC ¶ 141. Where the VECP is successful, the contractor reaps the benefit of a portion of the savings. However, explains the Board, the contractor must "bear the costs if the VECP does not perform as expected."

Consequently, the Board denies contractor's claim for recovery of the costs of adding the reinforcement. GUY F. ATKINSON CONST. CO., ENGBCA 6145, 98-1 BCA ¶ 29582.

✷ **Note---**Coming after the 11-year hiatus following the H & S decision, *supra*, the ENGBCA's opinion in *Atkinson* provides us with an up-to-date demonstration of the fact that obtaining Government acceptance of a VCP can impose significant cost risks on the proposing contractor. Of course, we are not aware of anything that would legally preclude the contractor from seeking to negotiate an agreement under which the Government would share the risks as well as the benefits of the proposed change. While contractors may be reluctant to make the Government aware of those risks at the outset for fear that it might well lead the Government to entirely reject the VECP, they should be aware of the potential negative consequences of that nondisclosure.

With respect to creative sharing arrangements in connection with VECPs, see Federal Acquisition Circular 97-05 (see GC ¶ 322), which recently clarified the regulatory (Federal Regulation 48.104-3) provision dealing with the "no cost" sharing alternative.

DON'S BARBER SERVICE

2616 Valley St. Dayton, OH

236-3581

FAR -- Part 48

Value Engineering

48.000 -- Scope of Part.
This part prescribes policies and procedures for using and administering value engineering techniques in contracts.

48.001 -- Definitions.
"Acquisition savings," as used in this part, means savings resulting from the application of a value engineering change proposal (VECP) to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include –

(a) Instant contract savings, which are the net cost reductions on the contract under which the VECP is submitted and accepted, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the contractor's allowable development and implementation costs;

(b) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

"WISDOM"

(a) Instant contract savings, which are the net cost reductions on the **instant** contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the **allowable** contractor's development and implementation costs;

(b) Concurrent contract savings, which are net reductions in the prices of other contracts **(with the same or other contractors)** that are definitized and ongoing at the time the VECP is accepted; and

(c) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units in the sharing base. On an instant contract, future contract savings include savings on increases in quantities after VECP acceptance that are due to contract modifications, exercise of options, additional orders, and funding of subsequent year requirements on a multiyear contract.

(c) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery during the sharing period (but see 48.102(g)). **The term "scheduled for delivery" shall mean the delivery schedule that is established on future contracts when the future contracts are awarded. Future contract savings include any increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, additional orders or, if the instant contract is a multiyear contract, quantities funded after VECP acceptance; and.**

(d) Annual acquisition savings, which are the net reduction in acquisition cost to the Government of an item, resulting from an accepted VECP, which the Government determines to reduce the quantity requirement on either the instant contract, concurrent and/or future contracts during the sharing period. All annual acquisition savings will be considered as future contracts for sharing purposes. However, because reduction in quantity can occur for reasons totally unrelated to the specifics in the accepted VECP (budget reductions, mission changes, requirements curtailment, changes in design or processes, etc.), the decision as to the amount of reduced demand that is due to the VECP as well as the determination of any and all costs, savings and other calculations regarding acquisition determinations must be left to the contracting officer and be removed from the Disputes process. The decision as to the amount of savings in the reduced quantity requirements that are attributable to the accepted VECP is a unilateral one made solely at the discretion of the contracting officer

"Agency," as used in Department of Defense contracts, shall mean the military department accepting the VECP (or the next equivalent level below the Department of Defense level).

Existing FAR Text	"WISDOM"
"Collateral costs," as used in this part, means agency costs of operation, maintenance, logistic support, or Government-furnished property.	
"Collateral savings," as used in this part, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.	
"Contracting office," as used in this part, includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.	"Contracting office," as used in this part, **means the contracting office that the contracting officer and the contractor agree will form the sharing base.** Contracting office includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.
"Contractor's development and implementation costs," as used in this part, means those costs the contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the contractor incurs to make the contractual changes required by Government acceptance of a VECP.	"Contractor's development and implementation costs," as used in this part, means those **allowable, allocable and reasonable** costs the contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP **("development costs")**, as well as those costs the contractor incurs to make the contractual changes required by Government acceptance of a VECP **("implementation costs")**.

No Text

"Deferred contractor's development and implementation costs" is the excess of the contractor's development and implementation costs over the instant contract savings on an accepted VECP. If this option is agreed to as the method to accept a VECP involving negative instant contract savings, the contracting officer shall consider providing consideration for the deferred amount. Any consideration provided on the deferred contractor's development and implementation costs are not Government costs as used in this clause and shall not be offset against savings. Deferred contractor's development and implementation costs will be paid to the contractor from concurrent and/or future savings before any Government costs are offset and before sharing.

"Future unit cost reduction," as used in this part, means the instant unit cost reduction adjusted as the contracting officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either –

(a) Throughout the sharing period, unless the contracting officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated, or

(b) To the calculation of a lump-sum payment, which cannot later be revised.

"Future unit cost reduction," as used in this part, means the instant unit cost reduction adjusted as the contracting officer considers necessary **only** for **the following two factors:**

(1) projected learning**;** or

(2) changes in quantity during the sharing period.

It is calculated at the time the VECP is accepted and applies either

(a)throughout the sharing period, unless the contracting officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or

(b) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this part, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in instant contract cost or price resulting from negative instant contract savings.

"Government costs," as used in this part, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP**,** any increase in instant contract **price, target price and ceiling price, target cost or estimated** cost resulting from negative instant contract savings **or any deferred contractor's development and implementation costs, including any consideration**.

"Instant contract," as used in this part, means the contract under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If the contract is a multiyear contract, the term does not include quantities funded after VECP acceptance. In a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant contract," as used in this part, means the contract under which the VECP is submitted **and accepted**. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options additional orders **or multiyear quantities funded after VECP acceptance**. **These quantities are to be considered future contract quantities.** In a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any contractor's development or implementation costs) resulting from using the VECP on the instant contract. In service contracts, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on the instant contract, multiplied by the appropriate contract labor rate.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any contractor's development or implementation costs) resulting from using the VECP on the instant contract **or the amount of savings in annual acquisition cost per unit resulting from the procurement of a reduced annual demand**. In service contracts **and non-hardware related changes on supply contracts**, the instant unit cost reduction is normally equal to the number of hours per line-item task **or process steps** saved by using the VECP on the instant contract, multiplied by the appropriate contract labor rate. **Unit cost reduction for savings in annual acquisition cost will be determined by: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD.**

"Negative instant contract savings" means the increase in the instant contract cost or price when the acceptance of a VECP results in an excess of the contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Negative instant contract savings" means the increase in the instant contract **price, target price and ceiling price, target cost** ,or **estimated** cost when the acceptance of a VECP results in an excess of the contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected. **Should this situation exist, there are at least two options available: (1) the Government can agree to fund the excess and recover the negative instant contract savings from concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred contractor's development and implementation costs and that deferred amount shall be paid to the contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs.**

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, future contract **and annual acquisition** savings, less Government costs. **Instant contract savings are normally calculated first and then concurrent, future and annual acquisition contract savings are calculated. Government costs are only subtracted until they are fully offset.**

"Sharing base," as used in this part, means the number of affected end items on contracts of the contracting office accepting the VECP.

"Sharing period," as used in this part, means the period beginning with acceptance of the first unit incorporating the VECP and ending at a calendar date or event determined by the contracting officer for each VECP.

"Sharing period," as used in this part, means the period beginning with acceptance of the first unit incorporating the VECP **(under any contract - instant, concurrent or future)** and ending at the later of (a) **5** years after the first unit affected by the VECP is accepted or (b) the last scheduled delivery date of an item affected by the VECP under the instant contract delivery schedule in effect at the time the VECP is accepted (but see 48.102(g)).

"Unit," as used in this part, means the item or task to which the contracting officer and the contractor agree the VECP applies.

"Value engineering change proposal (VECP)" means a proposal that --

(a) Requires a change to the instant contract to implement; and

(b) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change --

(1) In deliverable end item quantities only;

(2) In research and development (R&D) items or R&D test quantities that are due solely to results of previous testing under the instant contract; or

(3) To the contract type only.

"Value engineering change proposal (VECP)" means a proposal that --

(a) Requires **any** change to the instant contract to implement**. Such changes can be to any Government-directed processes or requirements that are specified for use in the performance of this contract and that provide an opportunity to reduce contractor costs of performance while still meeting contractual performance requirements**; and

"Value engineering proposal," as used in this part, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or contractor value engineering personnel under contract to an agency to provide value engineering services for the contract or program.

"Value engineering proposal **(VEP")**," as used in this part, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or contractor value engineering personnel under contract to an agency to provide value engineering services for the contract or program. (Section 36 of the Office of Federal Procurement Policy Act, 41 U.S.C. 401, et seq.).

Subpart 48.1 -- Policies and Procedures

48.101 -- General.
(a) Value engineering is the formal technique by which contractors may

(1) voluntarily suggest methods for performing more economically and share in any resulting savings or

(2) be required to establish a program to identify and submit to the Government methods for performing more economically. Value engineering attempts to eliminate, without impairing essential functions or characteristics, anything that increases acquisition, operation, or support costs.

(2) be required to establish a program to identify and submit to the Government methods for performing more economically. Value engineering attempts to **identify**, without impairing essential functions or characteristics, anything that increases acquisition, operation, or support **savings .**

(b) There are two value engineering approaches:

(1) The first is an incentive approach in which contractor participation is voluntary and the contractor uses its own resources to develop and submit any value engineering change proposals (VECP's). The contract provides for sharing of savings and for payment of the contractor's allowable development and implementation costs only if a VECP is accepted. This voluntary approach should not in itself increase costs to the Government.

(b) There are two value engineering approaches:

(1) The first is **a voluntary** approach in which contractor participation is **left to its discretion** and the contractor uses its own resources to develop and submit any value engineering change proposals (VECP's). The contract provides for sharing of savings and for payment of the contractor's allowable development and implementation costs only if a VECP is accepted. This voluntary approach should not in itself increase costs to the Government.

(2) The second approach is a mandatory program in which the Government requires and pays for a specific value engineering program effort. The contractor must perform value engineering of the scope and level of effort required by the Government's program plan and included as a separately priced item of work in the contract Schedule. No value engineering sharing is permitted in architect engineer contracts. All other contracts with a program clause share in savings on accepted VECP's, but at a lower percentage rate than under the voluntary approach. The objective of this value engineering program requirement is to ensure that the contractor's value engineering effort is applied to areas of the contract that offer opportunities for considerable savings consistent with the functional requirements of the end item of the contract.

48.102 -- Policies.

(a) As required by Section 36 of the Office of Federal Procurement Policy Act (41 U.S.C.401, et seq.), agencies shall establish and maintain cost-effective value engineering procedures and processes. Agencies shall provide contractors a substantial financial incentive to develop and submit VECP's. Contracting activities will include value engineering provisions in appropriate supply, service, architect-engineer and construction contracts as prescribed by 48.201 and 48.202 except where exemptions are granted on a case-by-case basis, or for specific classes of contracts, by the agency head.

Existing FAR Text	"WISDOM"
(b) Agencies shall -- (1) Establish guidelines for processing VECP's,	(b) Agencies shall: (1) Establish guidelines for processing VECP's;
	(2) **provide expeditious response to a contractor's notification of the undertaking of significant expenditures for VECP effort (see paragraph (c) of the value engineering clauses prescribed in Subpart 48.2);**
(2) Process VECP's objectively and expeditiously, and	(**3**) process VECP's objectively and expeditiously; and
(3) Provide contractors a fair share of the savings on accepted VECP's.	(**4**) provide contractors a fair share of the savings on accepted VECP's.
(c) Agencies shall consider requiring incorporation of value engineering clauses in appropriate subcontracts.	
(d)(1) Agencies other than the Department of Defense shall use the value engineering program requirement clause (52.248-1 , Alternates I or II) in initial production contracts for major system programs (see definition of major system in 34.001) and for contracts for major systems research and development except where the contracting officer determines and documents the file to reflect that such use is not appropriate.	
(2) In Department of Defense contracts, the VE program requirement clause (52.248-1 , Alternates I or II), shall be placed in initial production solicitations and contracts (first and second production buys) for major	

system acquisition programs as defined in DoD Directive 5000.1, except as specified in subdivisions (d)(2)(i) and (ii) of this section. A program requirement clause may be included in initial production contracts for less than major systems acquisition programs if there is a potential for savings. The contracting officer is not required to include a program requirement clause in initial production contracts --

(i) Where, in the judgment of the contracting officer, the prime contractor has demonstrated an effective VE program during either earlier program phases, or during other recent comparable production contracts.

(ii) Which are awarded on the basis of competition.

(e) Value engineering incentive payments do not constitute profit or fee within the limitations imposed by 10 U.S.C.2306(d) and 41 U.S.C.254(b) (see 15.404-4(c)(4)(i)).

(f) Generally, profit or fee on the instant contract should not be adjusted downward as a result of acceptance of a VECP. Profit or fee shall be excluded when calculating instant or future contract savings.

(f) **P**rofit or fee on the instant contact should not be adjusted downward as a result of acceptance of a VECP. Profit or fee shall be excluded when calculating instant or future contract savings.

(g) The contracting officer determines the sharing periods and sharing rates on a case-by-case basis using the guidelines in 48.104–1 and 48.104–2, respectively. In establishing a sharing period and sharing rate, the contracting officer must consider the following, as appropriate, and must insert supporting rationale in the contract file:

(1) Extent of the change.
(2) Complexity of the change.
(3) Development risk (e.g., contractor's financial risk).
(4) Development cost.
(5) Performance and/or reliability impact.
(6) Production period remaining at the time of VECP acceptance.
(7) Number of units affected.

(h) Contracts for architect-engineer services must require a mandatory value engineering program to reduce total ownership cost in accordance with 48.101(b)(2). However, there must be no sharing of value engineering savings in contracts for architect-engineer services.

(i) Agencies shall establish procedures for funding and payment of the contractor's share of collateral savings and future contract savings.

48.103 -- Processing Value Engineering Change Proposals.

(a) Instructions to the contractor for preparing a VECP and submitting it to the Government are included in paragraphs (c) and (d) of the value engineering clauses prescribed in Subpart 48.2. Upon receiving a VECP, the contracting officer or

(h) In the case of contracts for architect-engineer services, the contract shall include a separately priced line item for mandatory value engineering of the scope and level of effort required in the statement of work. The objective is to ensure that value engineering effort is applied to specified areas of the contract that offer opportunities for significant savings to the Government. There shall be no sharing of value engineering savings in contracts for architect-engineer services.

48.103 Processing Value Engineering Change proposals.

(a) Instructions to the contractor for preparing a VECP and submitting it to the Government are included in paragraphs (c) and (d) of the value engineering clauses prescribed in Subpart 48.2. **Upon receipt of written notification from the contractor of** other designated official shall promptly process and objectively evaluate the VECP in accordance with agency procedures and shall document the contract file with the rationale for accepting or rejecting the VECP.

intention to undertake significant expenditures for VECP effort, the contracting officer or other designated official shall respond expeditiously to such notification. Upon receiving a VECP, the contracting officer or other designated official shall promptly process and objectively evaluate the VECP in accordance with agency procedures and shall document the contract file with the rationale for accepting or rejecting the VECP.

(b) The contracting officer is responsible for accepting or rejecting the VECP within 45 days from its receipt by the Government. If the Government will need more time to evaluate the VECP, the contracting officer shall notify the contractor promptly in writing, giving the reasons and the anticipated decision date. The contractor may withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP. Any VECP may be approved, in whole or in part, by a contract modification incorporating the VECP. Until the effective date of the contract modification, the contractor shall perform in accordance with the existing contract. If the Government accepts the VECP, but properly rejects units subsequently delivered or does not receive units on which a savings share was paid, the contractor shall reimburse the Government for the proportionate share of these payments. If the VECP is not accepted, the contracting officer shall provide the contractor with prompt written notification, explaining the reasons for rejection.

(b) The contracting officer is responsible for accepting or rejecting the VECP within 45 days from its receipt by the Government. If the Government will need more time to evaluate the VECP, the contracting officer shall notify the contractor promptly in writing giving the reasons and the anticipated decision date. The contractor may withdraw, in whole or in part, any VECP **prior to its acceptance by the Government. Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay Value engineering shares to the contractor.** Any VECP may be approved, in whole or in part, by a contract modification incorporating the VECP. Until the effective date of the contract modification, the contractor shall perform in accordance with the existing contract. If the Government accepts the VECP, but properly rejects units subsequently delivered or does not receive units on which a savings share was paid, the contractor shall reimburse the Government for the proportionate share of these payments **unless the alternative lump-sum settlement payment method is selected (see 48.104-1(a)(6))**. If the VECP is not

	accepted, the contracting officer shall provide the contractor with prompt written notification, explaining the reasons for rejection.
(c) The following Government decisions are unilateral decisions made solely at the discretion of the Government:	(c) The following Government decisions are unilateral decisions made solely at the discretion of the Government:
(1) The decision to accept or reject a VECP.	(1) The decision to accept or reject ~~a~~ **all or part of any** VECP.
(2) The determination of collateral costs or collateral savings.	(2) The **amount** of collateral costs or collateral savings.
(3) The decision as to which of the sharing rates applies when Alternate II of the clause at 52.248-1 , Value Engineering, is used.	(3) The decision as to which of the sharing rates applies**, including** when Alternate II of the clause at 52.248-1, Value engineering , is used.
(4) The contracting officer’s determination of the duration of the sharing period and the contractor’s sharing rate	
	(5) The decision as to the amount of reduced demand due to a VECP, as well as the determination of any and all costs, savings and other calculations regarding acquisition determinations in the case of Annual Acquisition VECPs.

48.104 -- Sharing Arrangements.

48.104–1 Determining sharing period.
(a) Contracting officers must determine discrete sharing periods for each VECP. If more than one VECP is incorporated into a contract, the sharing period for each VECP need not be identical.

(b) The sharing period begins with acceptance of the first unit incorporating the VECP. Except as provided in paragraph (c) of this section, the end of the sharing period is a specific calendar date that is the later of—

(1) 36 to 60 consecutive months (set at the discretion of the contracting officer for each VECP) after the first unit affected by the VECP is accepted; or

(2) The last scheduled delivery date of an item affected by the VECP under the instant contract delivery schedule in effect at the time the VECP is accepted.

(c) For engineering-development contracts and contracts containing low-rate- initial-production or early production units, the end of the sharing period is based not on a calendar date, but on acceptance of a specified quantity of future contract units. This quantity is the number of units affected by the VECP that are scheduled to be delivered over a period of between 36 and 60 consecutive months (set at the discretion of the contracting officer for each VECP) that spans the highest planned production, based on planning and programming or production documentation at the time the VECP is accepted. The specified quantity begins with the first future contract unit affected by the VECP and continues over consecutive deliveries until the sharing period ends at acceptance of the last of the specified quantity of units.

(d) For contracts (other than those in paragraph (c) of this subsection) for items requiring a prolonged production schedule (e.g., ship construction, major system acquisition), the end of the sharing period is determined according to paragraph (b) of this subsection. Agencies may prescribe sharing of future contract savings on all future contract units to be delivered under contracts awarded within the sharing period for essentially the same item, even if the scheduled delivery date is outside the sharing period.

48.104-2 -- Sharing Acquisition Savings.

(a) Supply or service contracts.

(1) The sharing base for acquisition savings is the number of affected end items on contracts of the contracting office accepting the VECP. The sharing rates (Government/contractor) for net acquisition savings for supplies and services are based on the type of contract, the value engineering clause or alternate used, and the type of savings, as follows:

PARA F TABLE FOLLOWS

REVISED TABLE PARA F FOLLOWS

GOVERNMENT/CONTRACTOR SHARES OF NET ACQUISITION SAVINGS
(figures in percent)

	Sharing Arrangement			
	Incentive (voluntary)		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (includes fixed-price-award fee, excludes other fixed-price incentive contracts)	50/50 (1)	50/50 (1)	75/25	75/25
Incentive (fixed-price or cost) (other than award fee)	(2)	50/50 (1)	(2)	75/25
Cost-reimbursement (includes cost-plus-award-fee; excludes other cost-type incentive contracts)	75/25 (3)	75/25 (3)	85/15	85/15

(1) The contracting officer may increase the contractor's sharing rate to as high as 75 percent for each VECP. [See 48.102(g)(1) through (7)].

(2) Same sharing arrangement as the contract's profit or fee adjustment formula.

(3) The contracting officer may increase the contractor's sharing rate to as high as 50 percent for each VECP. [See 48.102(g)(1) through (7)].

GOVERNMENT/CONTRACTOR SHARES OF NET ACQUISITION SAVINGS
(figures in percent)

	Sharing Arrangement			
	Voluntary		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (other than incentive**-type**)	50/50 (1)	50/50 (1)	75/25	75/25
Incentive**-type** (fixed-price or cost **reimbursement**) **i.e., FPI-F, FPI-S, CPIF**	(2)	50/50 (1)	(2)	75/25
Cost-reimbursement** (other than incentive**-type**)<u>**</u>	75/25 (3)	75/25 (3)	85/15	85/15

(1) The contracting officer may increase the contractor's sharing rate to as high as 75 percent for each VECP. [See 48.102(g)(1) through (7)].

(2) In incentive-type contracts, the contractor's benefit from the VECP will be realized through the contract's profit or fee adjustment formula.

(3) The contracting officer may increase the contractor's sharing rate to as high as 50 percent for each VECP. [See 48.102(g)(1) through (7)]. [Cost-reimbursement contracts include cost-plus-award-fee contracts.]

(2) Acquisition savings may be realized on the instant contract, concurrent contracts, and future contracts. The contractor is entitled to a percentage share (see paragraph (a)(1) of this section) of any net acquisition savings. Net acquisition savings result when the total of acquisition savings becomes greater than the total of Government costs and any negative instant contract savings. This may occur on the instant contract or it may not occur until reductions have been negotiated on concurrent contracts or until future contract savings are calculated, either through lump-sum payment or as each future contract is awarded.

(i) When the instant contract is not an incentive contract, the contractor's share of net acquisition savings is calculated and paid each time such savings are realized. This may occur once, several times, or, in rare cases, not at all.

(i) When the instant contract is not an incentive**-type** contract, the contractor's share of net acquisition savings is calculated and paid each time such savings are realized. This may occur once, several times, or, in rare cases, not at all.

(ii) When the instant contract is an incentive contract, the contractor shares in instant contract savings through the contract's incentive structure. In calculating acquisition savings under incentive contracts, the contracting officer shall add any negative instant contract savings to the target cost or to the target price and ceiling price and then offset these negative instant contract savings and any Government costs against concurrent and future contract savings.

(ii) When the instant contract is an incentive**-type** contract, the contractor shares in instant contract savings through the contract's incentive structure **on instant contract items affected. The effect of this is that the contractor will receive a benefit through the instant contract's incentive structure (however, will not receive an instant savings share) but will share in any concurrent or future contract savings or collateral savings realized.** In calculating acquisition savings under incentive**-type** contracts, the contracting officer shall add any negative instant contract savings to the target cost or to the target price and ceiling price and then offset these negative instant contract savings and any Government costs against concurrent and future contract savings.

(3) The contractor shares in the savings on all affected units scheduled for delivery during the sharing period. The contractor is responsible for maintaining, for 3 years after final payment on the contract under which the VECP was accepted, records adequate to identify the first delivered unit incorporating the applicable VECP.

(4) Contractor shares of savings are paid through the contract under which the VECP was accepted. On incentive contracts, the contractor's share of concurrent and future contract savings and of collateral savings shall be paid as a separate firm-fixed-price contract line item on the instant contract.

(4) Contractor shares of savings are paid through the contract under which the VECP was accepted. On incentive**-type** contracts, the contractor's share of concurrent and future contract savings and of collateral savings shall be paid as a separate firm-fixed-price contract line item on the instant contract.

(5) Within 3 months after concurrent contracts have been modified to reflect price reductions attributable to use of the VECP, the contracting officer shall modify the instant contract to provide the contractor's share of savings.

(6) The contractor's share of future contract savings may be paid as subsequent contracts are awarded or in a lump-sum payment at the time the VECP is accepted. The lump-sum method may be used only if the contracting officer has established that this is the best way to proceed and the contractor agrees. The contracting officer ordinarily shall make calculations as future contracts are awarded and, within 3 months after award, modify the instant contract to provide the contractor's share of the savings. For future contract savings calculated under the optional lump-sum method, the sharing base is an estimate of the number of items that the contracting officer will purchase for delivery during the sharing period. In deciding whether or not to use the more convenient

(6) The contractor's share of future contract savings may be paid **(1)** as subsequent contracts are awarded; **(2) as deliveries are made on subsequent contracts;** or **(3)** in a lump-sum payment at the time the VECP is accepted. **Methods (2) or (3) may be used** only if the contracting officer has established that this is the best way to proceed and the contractor agrees. **Consideration should be given to the time value of money if methods (2) or (3) are agreed to.** The contracting officer ordinarily shall make calculations as future contracts are awarded and, within 3 months after their award, modify the instant contract to provide the contractor's share of savings. **If Method 2 (paying as future contract deliveries are made) is mutually agreed to, the instant contract shall be modified within 3 months following delivery to provide the contractor's share of**

lump-sum method for an individual VECP, the contracting officer shall consider –

savings. Some other mutually agreeable period may be agreed to - e.g., payment for all deliveries made within a 3-month period, a 6-month period, a 12-month period or whatever period is mutually agreed to. In any event, payment of the future share will be made within 3 months following the occurrence of the agreed-to event or time period. For future contract savings calculated under the optional lump-sum method, the sharing base is an estimate of the number of items that the contracting office will purchase for delivery during the sharing period. In deciding whether or not to use the more convenient lump-sum method for an individual VECP, the contracting officer shall consider --

(i) The accuracy with which the number of items to be delivered during the sharing period can be estimated and the probability of actual production of the projected quantity;

(ii) The availability of funds for a lump-sum payment; and

(iii) The administrative expense of amending the instant contract as future contracts are awarded.

(b) Construction contracts. Sharing on construction contracts applies only to savings on the instant contract and to collateral savings. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by

(1) 45 percent for fixed-price contracts or

(2) 75 percent for cost-reimbursement contracts.

Value engineering sharing does not apply to incentive construction contracts.

(b) Construction contracts. Sharing on construction contracts applies only to savings on the instant contract and to collateral savings. The **Contractor's** share of savings **on the instant contract** is determined by subtracting Government costs from instant contract savings and multiplying the result by

(1) **55** percent for fixed-price contracts; or

(2) **25** percent for cost-reimbursement contracts.

Value engineering sharing does not apply to incentive**-type** construction contracts.

(c) Architect-engineering contracts. There shall be no sharing of value engineering savings in contracts for architect-engineer services.

48.104-3 -- Sharing Collateral Savings.

(a) The Government shares collateral savings with the contractor, unless the head of the contracting activity has determined that the cost of calculating and tracking collateral savings will exceed the benefits to be derived (see 48.201(e)).

(b) The contractor's share of collateral savings may range from 20 to 100 percent of the estimated savings to be realized during a typical year of use but must not exceed the greater of—

(b) The contractor's share of collateral savings is **negotiable between** 20 percent **and 100 percent** of the estimated savings to be realized during an average **(arithmetic mean)** year of use but shall not exceed the contract's price, target price **(for fixed-price-incentive contracts)**, target cost **(for cost-plus-incentive-fee**

(1) The contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted; or

(2) $100,000.

(c) The contracting officer must determine the sharing rate for each VECP.

(d) In determining collateral savings, the contracting officer must consider any degradation of performance, service life, or capability.

contracts), or estimated cost, at the time the VECP is accepted**.** In determining collateral savings, the contracting officer shall consider any degradation of performance, service life, or capability. (See 48.104-1(a)(4) for payment of collateral savings through the instant contract.)

48.104-4 -- Sharing Alternative -- No-Cost Settlement Method.
In selecting an appropriate mechanism for incorporating a VECP into a contract, the contracting officer shall analyze the different approaches available to determine which one would be in the Government's best interest. Contracting officers should balance the administrative costs of negotiating a settlement against the anticipated savings. A no-cost settlement may be used if, in the contracting officer's judgment, reliance on other VECP approaches likely would not be more cost-effective, and the no-cost settlement would provide adequate consideration to the Government. Under this method of settlement, the contractor would keep all of the savings on the instant contract, and all savings on its concurrent contracts only. The Government would keep all savings resulting from concurrent contracts placed with other sources, savings from all future contracts, and all collateral savings. Use of this method must be by mutual agreement of both parties for individual VECPs.

48.104-4 -- Sharing alternative -- no-cost settlement method.
In selecting an appropriate mechanism for incorporating a VECP into a contract, the contracting officer shall analyze the different approaches available to determine which one would be in the Government's best interest. Contracting officers should balance the administrative costs of negotiating a settlement against the anticipated savings. A no-cost settlement may be used if, in the contracting officer's judgment, reliance on other VECP approaches likely would not be more cost-effective, and the no-cost settlement would provide adequate consideration to the Government. Under this method of settlement, the contractor would keep all of the savings on the instant contract, and all savings on its concurrent contracts only. The Government would keep all savings resulting from concurrent contracts placed with other sources, savings from all future contracts, and all collateral savings. Use of this method must be by mutual agreement of both parties for individual VECPs. **With all contract types, the instant contract must be changed by modification to accept the change proposed by the VECP. No other financial modifications need be made to firm-fixed-price, fixed-price contracts with economic price adjustment, fixed-price contracts with prospective or retrospective price redetermination, or firm-fixed-price, level-of-effort contracts. For fixed-price-incentive and cost-plus-incentive-fee contracts, in addition to modifying the instant contract to accept the change proposed by the VECP, the target cost must be reduced by the amount of instant contract savings.**

The contractor's share of instant contract savings (which is the total savings on the instant contract) shall be paid by adding a separate firm-fixed-price CLIN to the instant contract for the amount of the instant contract savings. For cost-plus-fixed-fee contracts, the estimated cost shall be reduced by the amount of the instant contract savings and that instant contract savings amount shall be added to the fixed fee. On cost-plus-award-fee contracts, the contractor's instant contract savings share is added to the base fee by modification (in addition to modifying the instant contract to accept the change proposed by the VECP).

48.105 -- Relationship to Other Incentives.

Contractors should be offered the fullest possible range of motivation, yet the benefits of an accepted VECP should not be rewarded both as value engineering shares and under performance, design-to-cost, or similar incentives of the contract. To that end, when performance, design-to-cost, or similar targets are set and incentivized, the targets of such incentives affected by the VECP are not to be adjusted because of the acceptance of the VECP. Only those benefits of an accepted VECP not rewardable under other incentives are rewarded under a value engineering clause.

48.105 Relationship to other incentives.

Contractors should be offered the fullest possible range of motivation, yet the benefits of an accepted VECP should not be rewarded both as value engineering shares and under performance **incentives (as in incentive-type contracts), reliability-improvement warranty,** design-to-cost, **process improvement, technology insertion, operation and support cost reduction, portions of an award fee plan under a cost-plus-award-fee contract** or similar incentives **contained in** ~~of~~ the contract. To that end, when performance, **reliability improvement,** design-to-cost, **portions of an award fee plan under a cost-plus-award-fee contract** or similar targets are **established** ~~set~~ and incentivized, the targets of such incentives affected by the VECP are not to be adjusted because of the acceptance of the VECP. Only those benefits of an accepted VECP not rewardable under other incentives are rewarded under a value engineering clause. **If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.**

Subpart 48.2 -- Contract Clauses

48.201 -- Clauses for Supply or Service Contracts.
(a) General. The contracting officer shall insert a value engineering clause in solicitations and contracts when the contract amount is expected to be $100,000 or more, except as specified in subparagraphs (a)(1) through (5) and in paragraph (f) below. A value engineering clause may be included in contracts of lesser value if the contracting officer sees a potential for significant savings. Unless the chief of the contracting office authorizes its inclusion, the contracting officer shall not include a value engineering clause in solicitations and contracts --

(1) For research and development other than full-scale development;

(1) For research and development other than **engineering and manufacturing development. However, if any part of the statement of work in such a contract reflects a Government specification that might profit from or be improved by application of VM techniques, the contracting officer shall consider inserting a value engineering clause to refer to that part**;

(2) For engineering services from not-for-profit or nonprofit organizations;

(3) For personal services (see Subpart 37.1);

(4) Providing for product or component improvement, unless the value engineering incentive application is restricted to areas

(4) Providing for product or component improvement, unless the **voluntary** value engineering application is restricted to areas not covered by provisions for product or component improvement;

(5) For commercial products (see Part 11) that do not involve packaging specifications or other special requirements or specifications; or

(6) When the agency head has exempted the contract (or a class of contracts) from the requirements of this Part 48. product or component improvement;

(b) Value engineering incentive. To provide a value engineering incentive, the contracting officer shall insert the clause at 52.248-1 , Value Engineering, in solicitations and contracts except as provided in paragraph (a) of this section (but see subparagraph (e)(1) below).

(b) Value engineering **stimulus**. To provide a value engineering **stimulus**, the contracting officer shall insert the clause at 52.248-1, Value Engineering, in solicitations and contracts except as provided in paragraph (a) above (but see subparagraph (e)(1) below).

(c) Value engineering program requirement.

(1) If a mandatory value engineering effort is appropriate (i.e., if the contracting officer considers that substantial savings to the Government may result from a sustained value engineering effort of a specified level), the contracting officer shall use the clause with its Alternate I (but see subparagraph (e)(2) below).

(2) The value engineering program requirement may be specified by the Government in the solicitation or, in the case of negotiated contracting, proposed by the contractor as part of its offer and included as a subject for negotiation. The program requirement shall be shown as a separately priced line item in the contract Schedule.

(d) Value engineering incentive and program requirement.

(1) If both a value engineering incentive and a mandatory program requirement are appropriate, the contracting officer shall use the clause with its Alternate II (but see subparagraph (e)(3) below).

(2) The contract shall restrict the value engineering program requirement to well-defined areas of performance designated by line item in the contract Schedule. Alternate II applies a value engineering program to the specified areas and a value

(d) **Voluntary** and program requirement.

(1) If both a **voluntary** value engineering **effort** and a mandatory program requirement are appropriate, the contracting officer shall use the clause with its Alternate II (but see subparagraph (e)(3) below).

(2) The contract shall restrict the value engineering program requirement to well-defined areas of performance designated by line item in the contract Schedule. Alternate II applies a value engineering program to the specified areas and a **voluntary** value engineering

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engineering incentive to the remaining areas of the contract.	**effort** to the remaining areas of the contract.
(e) Collateral savings computation not cost-effective. If the head of the contracting activity determines for a contract or class of contracts that the cost of computing and tracking collateral savings will exceed the benefits to be derived, the contracting officer shall use the clause with its --	
(1) Alternate III if a value engineering incentive is involved;	(1) Alternate III if a **voluntary** value engineering **effort** is involved;
(2) Alternate III and Alternate I if a value engineering program requirement is involved; or	
(3) Alternate III and Alternate II if both an incentive and a program requirement are involved.	(3) Alternate III and Alternate II if both **a voluntary value engineering effort** and a program requirement are involved.
(f) Architect-engineer contracts. The contracting officer shall insert the clause at 52.248-2 Value Engineering -- Architect-Engineer, in solicitations and contracts whenever the Government requires and pays for a specific value engineering effort in architect-engineer contracts. The clause at 52.248-1, Value Engineering, shall not be used in solicitations and contracts for architect-engineer services.	

(g) Engineering-development solicitations and contracts. For engineering-development solicitations and contracts, and solicitations and contracts containing low-rate-initial-production or early production units, the contracting officer must modify the clause at 52.248–1, Value Engineering, by—

(1) Revising paragraph (i)(3)(i) of the clause by substituting ''a number equal to the quantity required to be delivered over a period of between 36 and 60 consecutive months (set at the discretion of the Contracting Officer for each VECP) that spans the highest planned production, based on planning and programming or production documentation at the time the VECP is accepted;'' for ''the number of future contract units scheduled for delivery during the sharing period;'' and

(2) Revising the first sentence under paragraph (3) of the definition of ''acquisition savings'' by substituting ''a number equal to the quantity to be delivered over a period of between 36 and 60 consecutive months (set at the discretion of the Contracting Officer for each VECP) that spans the highest planned production, based on planning and programming or production documentation at the time the VECP is accepted.'' for ''the number of future contract units in the sharing base.''

(h) Extended production period solicitations and contracts. In solicitations and contracts for items requiring an extended period for production (e.g., ship construction, major system acquisition), if agency procedures prescribe sharing of future contract savings on all units to be delivered under contracts awarded during the sharing period (see 48.104–1(c)), the contracting officer must modify the clause at 52.248–1, Value Engineering, by revising paragraph (i)(3)(i) of the clause and the first sentence under paragraph (3) of the definition of ‘‘acquisition savings’’ by substituting ‘‘under contracts awarded during the sharing period’’ for ‘‘during the sharing period.’’

48.202 -- Clause for Construction Contracts.
The contracting officer shall insert the clause at 52.248-3 , Value Engineering -- Construction, in construction solicitations and contracts when the contract amount is estimated to be $100,000 or more, unless an incentive contract is contemplated. The contracting officer may include the clause in contracts of lesser value if the contracting officer sees a potential for significant savings. The contracting officer shall not include the clause in incentive-type construction contracts. If the head of the contracting activity determines that the cost of computing and tracking collateral savings for a contract will exceed the benefits to be derived, the contracting officer shall use the clause with its Alternate I.

48.202 Clause for construction contracts.
The contracting officer shall insert the clause at 52.248-3, Value Engineering -- Construction, in construction solicitations and contracts when the contract amount is estimated to be $100,000 or more, unless an incentive**-type** contract is contemplated. The contracting officer may include the clause in contracts of lesser value if the contracting officer sees a potential for significant savings. The contracting officer shall not include the clause in incentive-type construction contracts. If the head of the contracting activity **has determined** that the cost of computing and tracking collateral savings for a contract will exceed **any expected** benefits to be derived, the contracting officer shall use the clause with its Alternate I.

52.248 -- Value Engineering Provisions and Clauses.(FEB 2000)

52.248–1 Value Engineering.
As prescribed in 48.201, insert the following clause: Value Engineering (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the incentive sharing rates in paragraph (f) below.

(a) **Sharing arrangement.** The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the **voluntary** sharing rates in paragraph (f) below.

(b) Definitions.
"Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include --

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP,

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less the Contractor's allowable development and implementation costs;	
(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and	(2) Concurrent contract savings, which are net reductions in the prices of other contracts **(with the same or other contractors)** that are definitized and ongoing at the time the VECP is accepted; and
(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units in the sharing base. On an instant contract, future contract savings include savings on increases in quantities after VECP acceptance that are due to contract modifications, exercise of options, additional orders, and funding of subsequent year requirements on a multiyear contract.	(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery during the sharing period. **The term "scheduled for delivery" shall mean the delivery schedule that is established on future contracts when future contracts are awarded. Future contract savings include any increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, additional orders or, if the instant contract is a multiyear contract, quantities funded after VECP acceptance.**
	(4) Annual acquisition savings, which are the net reduction in acquisition cost to the Government of an item, resulting from an accepted VECP, which the Government determines to reduce the quantity requirement on either the instant contract, concurrent and/or future contracts during the sharing period. Any savings clearly attributable to an accepted VECP that result in reductions in quantity requirements can be shared with the contractor in accordance with paragraph (g)(4) below. All annual acquisition savings will be

considered as future contracts for sharing purposes. The decision as to the amount of savings in the reduced quantity requirements that are attributable to the accepted VECP is a unilateral decision made solely at the discretion of the contracting officer.

"Agency," as used in Department of Defense contracts, shall mean the military department accepting the VECP (or the next equivalent level below the Department of Defense level).

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.

"Contracting office" **means the contracting office that the Contracting Officer and the Contractor agree will form the sharing base (see subparagraph (h)(6) below) and** includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action. **Expansion of the sharing base by the agency head is not required to establish a successor office.**

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Contractor's development and implementation costs," as used in this clause, means those **allowable, allocable and reasonable** costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP **("development costs")**, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP **("implementation costs")**.

"Deferred Contractor's development and implementation costs" is the excess of the Contractor's development and implementation costs over the instant contract savings on an accepted VECP. If this option is agreed to as the method to accept a VECP involving negative instant contract savings, the Contracting Officer shall consider providing consideration for the deferred amount. Any consideration provided on the deferred Contractor's development and implementation costs are not Government costs as used in this clause and shall not be offset against savings. Deferred Contractor's development and implementation costs will be paid to the Contractor from concurrent and/or future savings before any Government costs are offset and before sharing.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either --

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary **only** for **the following two factors:**

(1)projected learning**;** or

(1) Throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated; or

(2) To the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If this is a multiyear contract, the term does not include quantities funded after VECP acceptance. If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

(2) changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP**,** any increase in this contract's **price, target price and ceiling price, target cost, or estimated** cost **(see subparagraph (h)(2) below)** resulting from negative instant contract savings **or any deferred Contractor's development and implementation costs, including any consideration provided**.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted **and accepted**. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, additional orders **or multiyear quantities funded after VECP acceptance. These quantities are to be considered future contract quantities.** If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract. If this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract **or the amount of savings in annual acquisition cost per unit resulting from the procurement of a reduced total annual demand.** If this is a service contract **or for non-hardware related changes on supply contracts**, the instant unit cost reduction is normally equal to the number of hours per line-item task **or process steps** saved by using the VECP on this contract, multiplied by the appropriate contract labor rate. **Unit cost reduction for savings in annual acquisition cost will be determined by: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD.**

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Negative instant contract savings" means the increase in **this contract's price, target price and ceiling price, target cost** ,or **estimated cost (see subparagraph (h)(2) below)** when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected. **Should**

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	this situation exist, there are at least two options available: (1) the Government can agree to fund the excess and recover the negative instant contract savings under concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred Contractor's development and implementation costs and that deferred amount shall be paid to the Contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs.
"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.	"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings **and annual acquisition savings**, less Government costs. **Instant contract savings are normally calculated first, using subparagraph (g)(2) below and then concurrent and future contract savings and annual acquisition savings are calculated, using subparagraphs (i)(2) and (i)(3) below. Government costs are only subtracted until they are fully offset.**
"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP.	
"Sharing period," as used in this clause, means the period beginning with acceptance of the first unit incorporating the VECP and ending at a calendar date or event determined by the contracting officer for each VECP.	

Existing FAR Text	**"WISDOM"**
"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.	"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies **(see subparagraph (h)(7) below)**. **Unit may be a component, a subsystem, the next-higher-order assembly or the end item itself.**
"Value engineering change proposal (VECP)" means a proposal that --	"Value engineering change proposal (VECP)" means a proposal that -
(1) Requires a change to this, the instant contract, to implement; and	(1) Requires **any** change to this, the instant contract, to implement**. Such changes can be to any Government-directed processes or requirements that are specified for use in the performance of this contract and that provide an opportunity to reduce contractor costs of performance while still meeting contractual performance requirements**; and
(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change --	
(i) In deliverable end item quantities only;	
(ii) In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or	
(iii) To the contract type only.	

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (c)(1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. **The Contractor is encouraged to provide written notification to the Contracting Officer before undertaking significant expenditures for VECP effort.** The VECP shall include the following:

The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs. **If the Contractor is unable to estimate the costs, an estimate of the hours required in the various Government activities associated with acceptance and implementation shall be considered an adequate response to this requirement.**

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it will not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(e) Government action.

(1) The Contracting Officer **shall** notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer **shall** notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government **shall** process VECP's expeditiously; however, it **shall** not be liable for any delay in acting upon a VECP.

(2) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until **the effective date** such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP and the decision as to which of the sharing rates applies **(including when Alternate II to this clause is used)** is a unilateral decision made solely at the discretion of the contracting officer.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the contracting officer.

(3) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. **Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay value Engineering shares to the Contractor.**

Existing FAR Text

(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon --

(1) This contract's type (fixed-price, incentive, or cost-reimbursement);

(2) The sharing arrangement specified in paragraph (a) above (incentive, program requirement, or a combination as delineated in the Schedule); and

(3) The source of the savings (the instant contract, or concurrent and future contracts), as follows:

PARA F TABLE FOLLOWS

"WISDOM"

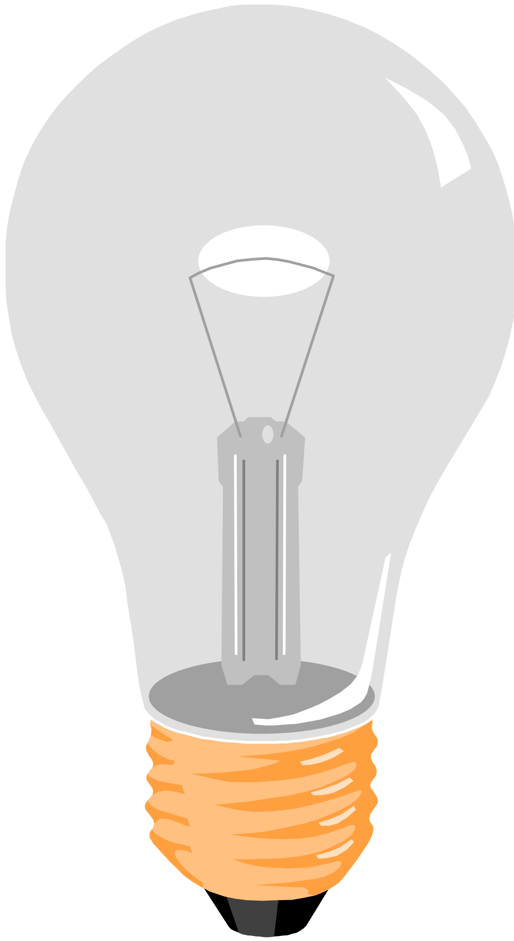
(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon -

(1) this contract's type (fixed-price, incentive**-type**, or cost-reimbursement),

(2) the sharing arrangement specified in paragraph (a) above (**voluntary** program requirement, or a combination as delineated in the Schedule), and

(3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

REVISED TABLE PARA F FOLLOWS



VE – Great Ideas Coming to Light

CONTRACTOR'S SHARES OF NET ACQUISITION SAVINGS
(figures in percent)

	Sharing Arrangement			
	Incentive (voluntary)		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (includes fixed-price-award fee, excludes other fixed-price incentive contracts)	50 (1)	50 (1)	25	25
Incentive (fixed-price or cost) (other than award fee)	(2)	50 (1)	(2)	25
Cost-reimbursement (includes cost-plus-award-fee; excludes other cost-type incentive contracts)	25 (3)	25 (3)	15	15

(1) The contracting officer may increase the contractor's sharing rate to as high as 75 percent for each VECP.

(2) Same sharing arrangement as the contractor's profit or fee adjustment formula.

(3) The contracting officer may increase the contractor's sharing rate to as high as 50 percent for each VECP

**CONTRACTOR SHARES OF NET
ACQUISITION SAVINGS**
(figures in percent)

	Sharing Arrangement			
	Voluntary		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (other than incentive**-type**)	50 (1)	50 (1)	25	25
Incentive**-type** (fixed-price or cost **reimbursement**) **i.e., FPI-F, FPI-S, CPIF**	(2)	50 (1)	(2)	25
Cost-reimbursement** (other than incentive**-type**)**	25 (3)	25 (3)	15	15

(1) The contracting officer may increase the contractor's sharing rate to as high as 75 percent for each VECP.

(2) In incentive-type contracts, the contractor's benefit from the VECP will be realized through the contract's profit or fee adjustment formula.

(3) The contracting officer may increase the contractor's sharing rate to as high as 50 percent for each VECP.
[Cost-reimbursement contracts include cost-plus-award-fee contracts.]

(g) Calculating net acquisition savings.

(1) Acquisition savings are realized when

(i) the cost or price is reduced on the instant contract,

(ii) reductions are negotiated in concurrent contracts,

(iii) future contracts are awarded, or

(iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below).

Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset against acquisition savings.

Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs **and deferred Contractor's development and implementation costs** and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, Government costs and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized

(2) Except in incentive**-type** contracts, Government costs **and any deferred Contractor's development and implementation costs** and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). The i**nstant contract savings portion of net**

acquisition savings is normally calculated first and then concurrent and future contract savings are calculated using subparagraphs (i)(2) and (i)(3) below. Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.

(3) If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(3) If this is an incentive**-type** contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor **will receive a benefit on instant contract items affected through the instant contract's incentive structure but will not, however, receive an instant contract savings share. The Contractor will receive any concurrent or future contract savings shares and collateral shares otherwise due**. **There shall be no adjustments to any of the targets on the instant contract as a result of the accepted VECP except that a**ny negative instant contract savings **(not treated as deferred Contractor's development and implementation costs)** shall be added to the **target price and ceiling price or to the** target cost **(see subparagraph (h)(2) below)**, and the amount shall be offset against concurrent and future contract savings.

(4) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.

(4) **If the VECP results in a reduced quantity requirement, and that reduction can be clearly attributable to the accepted VECP, the Unit Cost Reduction for both Instant and Future contracts can be calculated in the following manner: Old annual demand (OAD) of the old unit multiplied by the old unit cost (OUC) minus the new annual demand (NAD) of the new part multiplied by the new unit cost (NUC) and this quantity divided by the new annual demand (NAD). In formula form, this translates to: [(OAD X OUC) - (NAD X NUC)] ÷ NAD. Once the reduced quantity requirement instant unit cost reduction and/or future unit cost reductions are determined, the calculations described in paragraphs (g)(2) and (i)(3) can be made as described in those paragraphs.**

(5) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments. **No adjustments will be made if the lump-sum settlement method for payment of future contract savings shares is elected (see subparagraph (i)(4) below).**

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification issued as soon as possible after any negotiations are completed) shall --

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification **or modifications (see subparagraph (h)(9) below)** issued as soon as possible after any negotiations are completed) shall --

Existing FAR Text	"WISDOM"
(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive contract;	(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive**-type** contract;
(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;	(2) When the amount of instant contract savings is negative, **there are at least two options available to the Contracting Officer: (1) the Government can agree to fund the excess and recover the negative instant contract savings under concurrent or future contracts before any savings are shared; or (2) the excess can be considered deferred Contractor's development and implementation costs and that deferred amount shall be paid to the Contractor from concurrent or future savings before any Government costs are offset and before any sharing occurs. If the former is chosen,** increase the contract price **(for all fixed-price contracts except fixed-price-incentive contracts)**, target price and ceiling price (**for fixed-price-incentive contracts)**, target cost **(for cost-plus-incentive-fee contracts)**, or estimated cost **(for all cost-reimbursement contracts except cost-plus-incentive-fee)** by **the absolute value of** that amount**.**
(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;	(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment**. If a lump-sum settlement is not chosen, the method of payment (either a series of payments over time as future contracts are awarded or as deliveries are made on future contracts) shall be specified**;

Existing FAR Text:

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings; and

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts -- add to contract price.

(ii) Cost-reimbursement contracts -- add to contract fee.

"WISDOM":

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings**. If the deferred Contractor's development and implementation cost method is chosen to settle a negative instant contract savings situation, specify the amount of any deferred Contractor's development and implementation costs to be offset in determining net acquisition savings realized from concurrent and/or future contract savings**; and

(iii) Incentive-type contracts – add Contractor's share of concurrent or future contract savings or collateral savings as a separate firm-fixed-price line item.

(6) Specify what the Contracting Officer and the Contractor agree the contracting office shall be for the purpose of establishing the sharing base by inserting the following into the modification accepting the VECP: "For purposes of this VECP, the Government and the Contractor agree that the

Contracting Office' is understood to be ___________________."

(7) Specify, in detail, the unit that the Contracting Officer and the Contractor agree the VECP applies by inserting the following into the modification accepting the VECP: "For purposes of this VECP, the Government and the Contractor agree that the 'Unit' is understood to be ___________________."

(8) Provide the deferred Contractor's development and implementation costs and accrued interest, if any, as a separate firm-fixed-price line item when realized from concurrent and/or future contract savings.

(9) If the VECP is accepted by one modification and there is a subsequent modification or modifications issued as soon as possible after any negotiations are completed, the modification accepting the VECP shall, to limit the Government's liability, contain "not-more-than" limits on Contractor development and implementation costs and on Government costs as well as an agreed-upon "not-less-than" savings amount.

Existing FAR Text	"WISDOM"
(i) Concurrent and future contract savings.	(i) Concurrent and future contract savings.
(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.	(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.
(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by:	(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by:
(i) Subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset; and	(i) subtracting from the reduction in price negotiated on the concurrent contract any **deferred Contractor's development and implementation costs and/or** Government costs **and/**or negative instant contract savings **(absolute value)** not yet offset and
(ii) Multiplying the result by the Contractor's sharing rate.	(ii) multiplying the result by the Contractor's sharing rate. **The deferred Contractor's development and implementation costs take precedence and shall be paid to the Contractor, along with any consideration provided, before any Government costs are recovered.**

Existing FAR Text	"WISDOM"
(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by --	
(i) Multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period;	
(ii) Subtracting any Government costs or negative instant contract savings not yet offset; and	(ii) subtracting any **deferred Contractor's development and implementation costs and/or** Government costs **and/**or negative instant contract savings **(absolute value)** not yet offset, and
(iii) Multiplying the result by the Contractor's sharing rate.	(iii) multiplying the result by the Contractor's sharing rate. . **The deferred Contractor's development and implementation costs take precedence and shall be paid to the Contractor, along with any consideration provided, before any Government costs are recovered.**
(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing	(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid **either: (1)** in a single lump sum **or (2) as deliveries are made on future contracts** rather than in a series of payments over time as future contracts are awarded**.** Under **the** alternate **lump-sum settlement** procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will

period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-4 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(iii) For all contract types, modify the instant contract to accept the change proposed by the VECP. No other financial modifications need be made to firm-fixed-price, fixed-price contracts with economic price adjustment, fixed-price contracts with prospective or retrospective price redetermination, or firm-fixed-price, level-of-effort contracts. For fixed-price-incentive and cost-plus-incentive-fee contracts, in addition to modifying the

instant contract to accept the change proposed by the VECP, the target cost must be reduced by the amount of instant contract savings. The Contractor's share of instant contract savings (which is the total savings on the instant contract) shall be paid by adding a separate firm-fixed-price CLIN to the instant contract for that amount. For cost-plus-fixed-fee contracts, the estimated cost shall be reduced by the amount of the instant contract savings and that instant contract savings amount shall be added to the fixed fee. On cost-plus-award-fee contracts, the Contractor's share (the instant contract savings) are added to the base fee by modification (in addition to modifying the instant contract to accept the change proposed by the VECP).

(j) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount , as specified in paragraph (h)(5) of this clause, by a rate from 20 to 100 percent, as determined by the Contracting Officer, of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed

(j) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount , as specified in subparagraph (h)(5) above, by **an amount negotiated to be between** 20 percent and 100 percent of any projected collateral savings determined to be realized in a **average (arithmetic mean)** year of use after subtracting **from the total identified collateral savings** any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed

Existing FAR Text:

(1) the contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or

(2) $100,000, whichever is greater.

The Contracting Officer will be the sole determiner of the amount of collateral savings.

"WISDOM":

(1) the contract's price, target price (**for fixed-price-incentive contracts)**, target cost **(for cost-plus-incentive-fee contracts)**, or estimated cost, at the time the VECP is accepted **(before any VECP adjustments are made), or**

Existing FAR Text:

(k) Relationship to other incentives. Only those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

"WISDOM":

(k) Relationship to other incentives. **The** benefits of an accepted VECP **shall not be rewarded both as value Engineering shares and** under performance **incentives (as in incentive-type contracts), reliability-improvement warranty**, design-to-cost, **process improvement, technology insertion, operation and support cost reduction, portions of an award fee plan under a cost-plus-award-fee contract** or similar incentives **contained in the contract. To that end, when performance, reliability improvement, design-to-cost, portions of an award fee plan under a cost-plus-award-fee contract or similar targets are established and incentivized,** the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings or collateral savings.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price **or estimated cost and fee** for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include**, in addition to its own allowable development and implementation costs,** any subcontractor's allowable development and implementation costs, and any value engineering **share** payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings**, annual acquisition savings** or collateral savings. **The effect of this is that the subcontractor will receive first rights to any instant contract savings shares and the subcontractor's share will, consequently, have to be calculated first, using the sharing arrangement specified in the contract between the Contractor and the subcontractor.**

(m) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

> "These data, furnished under the Value Engineering clause of contract ________, shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations. If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the

VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)"

(End of Clause)

Alternate I (Apr 1984). If the contracting officer selects a mandatory value engineering program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) General. The Contractor shall

(1) engage in a value engineering program, and submit value engineering progress reports, as specified in the Schedule and

(2) submit to the Contracting Officer any resulting value engineering change proposals (VECP's). In addition to being paid as the Schedule specifies for this mandatory program, the Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the program requirement sharing rates in paragraph (f) below.

Alternate I (APR 1984). If the contracting Officer selects a mandatory value engineering program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) **Sharing Arrangement**. The Contractor shall

Alternate II (FEB 2000). If the contracting officer selects both a value engineering incentive and mandatory value engineering program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) General. For those contract line items designated in the Schedule as subject to the value engineering program requirement, the Contractor shall

(1) engage in a value engineering program, and submit value engineering progress reports, as specified in the Schedule and

(2) submit to the Contracting Officer any resulting VECP's. In addition to being paid as the Schedule specifies for this mandatory program, the Contractor shall share in any net acquisition savings realized from VECP's accepted under the program, in accordance with the program requirement sharing rates in paragraph (f) below. For remaining areas of the contract, the Contractor is encouraged to develop, prepare, and submit VECP's voluntarily; for VECP's accepted under these remaining areas, the incentive sharing rates apply.

The decision on which rate applies is a unilateral decision made solely at the discretion of the Government.

Alternate III (Apr 1984). When the head of the contracting activity determines that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a contract calling for a value engineering incentive, delete paragraph (j) from the basic

Alternate II (FEB 2000). If the Contracting Officer selects both a **voluntary** value engineering **effort** and **a** mandatory value engineering program requirement, substitute the following paragraph (a) for paragraph (a) of the basic clause:

(a) **Sharing arrangement**. For those contract line items designated in the Schedule as subject to the value engineering program requirement, the Contractor shall

(2) submit to the Contracting Officer any resulting VECP's. In addition to being paid as the Schedule specifies for this mandatory program, the Contractor shall share in any net acquisition savings realized from VECP's accepted under the program, in accordance with the program requirement sharing rates in paragraph (f) below. For remaining areas of the contract, the Contractor is encouraged to develop, prepare, and submit VECP's voluntarily; for VECP's accepted under these remaining areas, the **voluntary** sharing rates apply.

The decision on which rate applies is a unilateral decision made solely at the discretion of the Government.

Alternate III (APR 1984). When the head of the contracting activity determines **(prior to contract award)** that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a contract **or class of contracts** calling for value engineering **sharing**, delete clause and redesignate the remaining paragraphs accordingly.

paragraph (j) from the basic clause and redesignate the remaining paragraphs accordingly. The effect of this Alternate III is that the Contractor will not share in any collateral savings.

52.248-2 Value engineering -- Architect-Engineer.
As prescribed in 48.201(f), insert the following clause:

VALUE ENGINEERING - ARCHITECT-ENGINEER
(MAR 1990)

(a) General. The Contractor shall (1) perform value engineering (VE) services and submit progress reports, as specified in the Schedule; and (2) submit to the Contracting Officer any resulting value engineering proposals (VEP's). Value engineering activities shall be performed concurrently with, and without delay to, the schedule set forth in the contract. The services shall include VE evaluation and review and study of design documents immediately following completion of the 35 percent design state or at such stages as the Contracting Officer may direct. Each separately priced line item for VE services shall define specifically the scope of work to be accomplished and may include VE studies of items other than design documents. The Contractor shall be paid as the contract specifies for this effort, but shall not share in savings which may result from acceptance and use of VEP's by the Government.

(b) Definitions.
"Life cycle cost," as used in this clause, is the sum of all costs over the useful life of a building, system or product. It includes the cost of design, construction, acquisition, operation, maintenance, and salvage (resale) value, if any.

"Value engineering," as used in this clause, means an organized effort to analyze the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with required performance, reliability, quality, and safety.

"Value engineering proposal," as used in this clause, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or contractor value engineering personnel under contract to an agency to provide value engineering services for the contract or program.

"Value engineering proposal **("VEP")**," as used in this clause, means, in connection with an A-E contract, a change proposal developed by employees of the Federal Government or **C**ontractor value engineering personnel under contract to an agency to provide value engineering services for the contract or program.

(c) Submissions. After award of an architect-engineering contract the contractor shall --

(1) Provide the Government with a fee breakdown schedule for the VE services (such as criteria review, task team review, and bid package review) included in the contract schedule;

(2) Submit, for approval by the Contracting Officer, a list of team members and their respective resumes representing the engineering disciplines required to complete the study effort, and evidence of the team leader's qualifications and engineering discipline. Subsequent changes or substitutions to the approved VE team shall be submitted in writing to the Contracting Officer for approval; and

(3) The team leader shall be responsible for pre-study work assembly and shall edit, reproduce, and sign the final report and each VEP. All VEP's, even if submitted earlier as an individual submission, shall be contained in the final report.

(d) VEP preparation. As a minimum, the contractor shall include the following information in each VEP:

(1) A description of the difference between the existing and proposed design, the comparative advantages and disadvantages of each, a justification when an item's function is being altered, the effect of the change on system or facility performance, and any pertinent objective test data.

(2) A list and analysis of design criteria or specifications that must be changed if the VEP is accepted.

(3) A separate detailed estimate of the impact on project cost of each VEP, if accepted and implemented by the Government.

(4) A description and estimate of costs the Government may incur in implementing the VEP, such as design change cost and test and evaluation cost.

(5) A prediction of any effects the proposed change may have on life cycle cost.

(6) The effect the VEP will have on design or construction schedules.

(a) VEP acceptance. Approved VEP's shall be implemented by bilateral modification to this contract.

52.248-3 -- Value Engineering -- Construction (FEB 2000)
As prescribed in 48.202 , insert the following clause:

Value Engineering -- Construction (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any instant contract savings realized from accepted VECP's, in accordance with paragraph (f) below.

(b) Definitions.

. **"Agency," as used in Department of Defense contracts, shall mean the military department accepting the VECP (or the next equivalent level below the Department of Defense level).**

"Collateral costs," as used in this clause, means agency costs of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Contractor's development and implementation costs," as used in this clause, means those **allowable, allocable and reasonable** costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP **("development costs")**, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP **("implementation costs")**.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistic support. The term does not include the normal administrative costs of processing the VECP.

"Instant contract savings," as used in this clause, means the estimated reduction in Contractor cost of performance resulting from acceptance of the VECP, minus allowable Contractor's development and implementation costs, including subcontractors' development and implementation costs (see paragraph (h) below).

"Value engineering change proposal (VECP)" means a proposal that --

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the contract price or estimated cost without impairing essential functions or characteristics; provided, that it does not involve a change --

(2) Results in reducing the **overall projected cost to the agency** without impairing essential functions or characteristics; provided, that it does not involve a change –

(i) In deliverable end item quantities only; or

(ii) To the contract type only.

Existing FAR Text

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (c)(1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and that proposed, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, and the effect of the change on the end item's performance.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for

(i) the affected portions of the existing contract requirement and

(ii) the VECP.

"WISDOM"

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (7) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. **The Contractor is encouraged to provide written notification to the Resident Engineer at the work site before undertaking significant expenditures for VECP effort.** The VECP shall include the following:

The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (h) below.

Existing FAR Text	"WISDOM"
(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.	(4) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs. **If the Contractor is unable to estimate the costs, an estimate of the hours required in the various Government activities associated with acceptance and implementation shall be considered an adequate response to this requirement.**

(5) A prediction of any effects the proposed change would have on collateral costs to the agency.

(6) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(7) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Resident Engineer at the work site, with a copy to the Contracting Officer.

(e) Government action.

(1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it will not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(2) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or any part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause. The Contracting Officer may accept the VECP, even though an agreement on price reduction has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or any part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(3) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. **Any such withdrawn portion may be subsequently implemented by the Government by change order with no obligation to pay value Engineering shares to the Contractor.**

(f) Sharing --

(1) Rates. The Government's share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by --

(i) 45 percent for fixed-price contracts; or

(ii) 75 percent for cost-reimbursement contracts.

(2) Payment. Payment of any share due the Contractor for use of a VECP on this contract shall be authorized by a modification to this contract to--

(f) Sharing.

(1) Rates. The **Contractor's** share of savings is determined by subtracting Government costs from instant contract savings and multiplying the result by --

(i) **55** percent for fixed-price contracts or

(ii) **25** percent for cost-reimbursement contracts.

Existing FAR Text	"WISDOM"
(i) Accept the VECP;	
(ii) Reduce the contract price or estimated cost by the amount of instant contract savings; and	
(iii) Provide the Contractor's share of savings by adding the amount calculated to the contract price or fee.	(iii) Provide the Contractor's share of savings by adding the **share** amount calculated **in subparagraph (f)(1)** to the contract price or fee.
(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase instant contract amount by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed	(g) Collateral savings. If a VECP is accepted, the Contracting Officer will increase instant contract amount by **an amount negotiated to be between** 20 percent **and 100 percent** of any projected collateral savings determined to be realized in a **average (arithmetic mean)** year of use after subtracting **from that average year** any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed
(1) the contract's firm-fixed-price or estimated cost, at the time the VECP is accepted, or	(1) the contract's price or estimated cost, at the time the VECP is accepted **(before any VECP adjustments are made)**
(2) $100,000, whichever is greater.	
The Contracting Officer shall be the sole determiner of the amount of collateral savings.	

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price under paragraph (f) above, the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering incentive payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(h) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $50,000 or more and may include one in subcontracts of lesser value. In computing any adjustment in this contract's price **or estimated cost and fee** under paragraph (f) above, the Contractor's allowable development and implementation costs shall include**, in addition to its own allowable development and implementation costs,** any subcontractor's allowable development and implementation costs clearly resulting from a VECP accepted by the Government under this contract, but shall exclude any value engineering **share** payments to a subcontractor. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that these payments shall not reduce the Government's share of the savings resulting from the VECP.

(i) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

> "These data, furnished under the Value Engineering -- Construction clause of contract ___________, shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under

the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations. If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of Clause)

Alternate I (Apr 1984). When the head of the contracting activity determines that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a construction contract, delete paragraph (g) from the basic clause and redesignate the remaining paragraphs accordingly.

Alternate I (APR 1984). When the head of the contracting activity determines **(prior to contract award)** that the cost of calculating and tracking collateral savings will exceed the benefits to be derived in a construction contract, delete paragraph (g) from the basic clause and redesignate the remaining paragraphs accordingly. **The effect of this Alternate I is that the Contractor will not share in any collateral savings.**

CHAPTER C

VALUE ENGINEERING

FAR CLAUSE APPLICATION

EXERCISE INDEX

ORIGINS OF THE NAMES USED IN THE CASES

Aries - the Ram. A constellation located above the ecliptic.
One of the astrological group.

Corvus - a northern hemisphere constellation west and south of Virgo.
Visible Spring and Summer.

Pollux - the brother of Castor. The first magnitude star (located 35 light years from Earth) marks the southerly head of one of the *Gemini* twins.

Boötes - the Herdsman. A northern hemisphere constellation located off the handle of the Big Dipper.

Dorado - the Swordfish. A southern hemisphere constellation at one edge of the Larger Magellanic Cloud.

Fornax - the Furnace. A galaxy in the Milky Way's local group of galaxies.

Hydra - the hundred-headed monster from Greek Mythology. A southern hemisphere constellation south of *Leo* and *Cancer*. The longest of all constellations.

Grus - the Crane. A southern hemisphere constellation visible in Winter (when it' Winter in the southern hemisphere, that is)

Lepus - although *Lepus* is Latin for Rabbit, the origin of the name of this constellation is hidden in doubt and speculation. A small, almost rectangular, northern hemisphere constellation located directly below *Orion*. It is visible in Winter.

Musca - the Fly (the only insect among the constellations). A southern hemisphere constellation on the edge of the Milky Way.

Maysville - Back to Earth (and all around Ohio). This is the name of a town in Ohio (located about 10 miles East of Lima), in Southwestern Indiana (about 15 miles East if Vicennes), in Northeastern Kentucky (along the Ohio River), also in Pennsylvania

THE ARIES COMPANY

SCENARIO:

A recent contract award to the Aries Company was in the form of a Firm Fixed Price (FFP) contract with the Air Force. This contract called for 250 units to be delivered in accordance with the required schedule. Contract *price* per unit was established at $6,790. Aries has submitted their first VECP which indicates that the unit cost reduction on the instant contract will average $1,000 per unit. With timely processing, the VECP can be applied to 200 of the units called for in the instant contract. An agreement has been reached as to contractor costs to develop, test and prepare the VECP in the amount of $7,000; Aries costs to make contractual changes related to the VECP are, likewise, agreed to be $33,000. With some difficulty, an agreement has been reached that establishes the agency (Government) costs at $35,000.

The VE clause used in this contract is FAR 52.248-1, VALUE ENGINEERING (FEB 2000).

HINT: As in all the cases containing multiple scenarios, work the scenarios developmentally. That is, do all the work on the first scenario, then go to the second, and so on through all the various scenarios. The only time you'll have to "peek ahead" will be in the Boötes case - the one case involving a Negative Instant Contract Savings. You don't want to reject the VECP without looking forward to see if there are other savings that will permit you to accept the proposal.

QUESTIONS:

1. What is the contractor's dollar share of savings on the instant contract? [See definition of: ICS, NAS and calculate contractor's share using FAR 52.248-1(g)(2) and (f)]

2. What is the Government's dollar share of savings on the instant contract?

3. What is the adjusted contract price as a result of the instant contract savings? [See FAR 52.248-1 (h) (1) & (h) (5) (i)]

MORE SCENARIO:

It has been possible for the contracting office to adopt the VECP for use in a contract with CLC Corporation that was already ongoing (and definitized) at the time the VECP was accepted. A price reduction flowing from the use of the VECP has been negotiated at an amount of $100,000.

MORE QUESTIONS:

4. What kind of savings shares are these (Instant, Concurrent, Future or Collateral)?

5. What is Aries' dollar share of these savings, if any? [See FAR 52.248-1 (i) (2) and (i) (1)]

6. How are those savings, if any, to be paid to the contractor? [See FAR 48.104-2 (a) (5)]

AGAIN, MORE SCENARIO:

The same contracting office awarded another contract to Aries for the same item. That contract incorporates the VECP but was not definitized until after the VECP was accepted. This contract called for an additional quantity of 200 units, all of which are to be delivered within the share period. When the VECP was accepted, a Future *Unit* Cost Reduction of $614.66 (for the additional 200 units) was negotiated, which assumed that there would be no break in production.

AGAIN, MORE QUESTIONS:

7. Will any savings accrue to the contractor as a result of this additional contract and, if so, what kind of savings are they?

8. What will be the contractor's share (if you think there is any)? {See FAR 52 248-1(i) (3) and (i) (1)]

9. How will the contractor be paid, if you think there is a VE share? {See FAR 48.104-1 (a) (6)]

WHAT! MORE SCENARIO?:

There are collateral savings, estimated by the Government to be $165,000 in net amount relatable to a typical year's use.

WHAT! MORE QUESTIONS:

10. What will be the contractor's dollar share of these savings? {See FAR 52.248-1 (j)]

11. How will Aries' share be paid? [See FAR 48.104-3]

THE CORVUS CORPORATION

SCENARIO:

The U.S. Army Tank, Automotive and Armament Command (TACOM) has awarded a large, full-scale development contract (Cost Plus Award Fee - CPAF) to the Corvus Corporation. The work called for can be segmented in such a way that the first thirteen (13) Contract Line Item Numbers (CLIN's) in the contract Schedule could be tied to a Value Engineering Program Requirement clause and the last twelve (12) CLIN's could be associated with a Value Engineering Incentive clause. Obviously, there are 25 CLIN's on this contract.

The Estimated Cost of the contract is $20,000,000 and the award arrangement provides for an award fee range of $200,000 minimum (1.0% Base Fee) up to $3,000,000 maximum (15.0% Base Fee portion and Award Fee portion combined). The amount of the award fee to be paid is determined by the Government's judgmental evaluation of Corvus' performance in terms of the criteria stated in the contract. The criteria have been deleted for the sake of brevity.

Line item 10 of the instant contract calls for 400 each, type C-5 end items to be delivered. The first Corvus VECP, if implemented on the entire 400 units, will result in an instant unit cost reduction that is estimated to average $1,700 per unit. Government costs related to the VECP are expected to be $29,000, while contractor costs of development and implementation have reached $141,000.

The FAR clause used in the contract between TACOM and Corvus is that found at 52.248-1 (FEB 2000), Alt. II (FEB 2000).

QUESTIONS:

1. What is the contractor's dollar share of savings on the instant contract?

2. What is the Government's dollar share of savings on the instant contract?

3. What adjustments are to be made in contract's cost and the fee in the contract? (Remember, there are *two* fees involved here - the base (minimum fee) and the maximum (base plus award) fee. Add each of the two revised fees to the adjusted estimated cost to come up with a minimum cost plus fee *and* a maximum cost plus fee.)

TURN THE PAGE - THERE'S MORE TO COME!

4. You will note that the fee to be paid the contractor, when combined with their VECP instant savings share, is considerably over the statutory maximum fee - $3,000,000 - that may be paid the contractor (that is, if the maximum award fee is actually given the contractor).

   a. Is this permissible? [See FAR 48.102 (e)]

   b. Do you need a FAR deviation to permit you to give Corvus this "overpayment"?

   c. If you decide that a deviation is called for, who in the world would you obtain one from?

A BIT MORE SCENARIO:

At the time the VECP was accepted, the instant contract contained an unexercised, priced option for an additional 600 units of the same CLIN that the VECP was submitted against (CLIN 0010). About 30 days later, the option was exercised and the delivery schedule was established such that all 600 units on this option are scheduled for delivery during the sharing period. The average unit cost reduction for these 600 units is agreed to be $1,406.60.

A FEW MORE QUESTIONS:

5. What kind of savings are these?

6. What is the contractor's dollar share of these savings, if any?

7. What is the Government's dollar share of these savings, if any?

THE POLLUX COMPANY

THE SCENARIO:

Pollux received a substantial Firm Fixed Price (FFP) contract that included a VE clause. Soon after the contract award, Pollux submitted a cost reduction Engineering Change Proposal (ECP). In the letter of transmittal, it was stated that their proposal was being made in accordance with the Changes clause of the contract.

The firm fixed price for the contract is $2,160,000. The change proposed by Pollux is to be applied to all 200 units on the contract and will result in a unit cost reduction of $1,300 per unit. Contractor costs to develop, test and prepare the proposal are established at $47,000 and it is estimated (and agreed) that it will take an additional $13,000 for Pollux to implement the change. If the Government accepts the change, it has been determined that there will be no agency costs associated with the implementation. Net cost reduction, is therefore estimated to be $200,000. An informal comment by the price analyst in the office indicated that the profit rate of 8% in the Pollux contract was considered to be reasonable (that means that the contract - before any adjustments for the ECP/VECP - contains $2,000,000 in costs and $160,000 in profit).

The contract included the following clauses:

FAR 52.243-1 CHANGES - FIXED PRICE (AUG 1987)
FAR 52.248-1 VALUE ENGINEERING (FEB 2000)

QUESTIONS:

1. Calculate the amount of savings that would be shared with the contractor IF you accepted their proposal under the VE clause and adjust the contract as directed in paras (h) (1) and (h) (5) (i).

2. Calculate the adjustment to be made in the contract if an equitable adjustment is made (as called for by the Changes clause). Compare the adjusted contract amount obtained in question 2 with the adjusted contract amount from question 1 and note how much that difference is.

3. Why would you think a contractor would submit a cost reduction ECP (which results in an equitable adjustment) rather than submit a VECP that will give them a share of any savings?

4. Under which clause do *you* think the Government should accept the change? What are the consequences of your choice of action?

52.243-1 Changes - Fixed Price.
As prescribed in 43.205(a)(1), insert the following clause. The 30-day period may be varied according to agency procedures.

CHANGES - FIXED-PRICE (AUG 1987)

(a) The Contracting Officer may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in any one or more of the following:

(1) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the Government in accordance with the drawings, designs, or specifications.

(2) Method of shipment or packing.

(3) Place of delivery.

(b) If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, the Contracting Officer shall make an equitable adjustment in the contract price, the delivery schedule, or both and shall modify the contract.

(c) The Contractor must assert its right to an adjustment under this clause within 30 days from the date of receipt of the written order. However if the Contracting Officer decides that the facts justify it, the Contracting Officer shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the contract.

(d) If the Contractor's proposal includes the cost of property made obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of the disposition of the property.

(e) Failure to agree to any adjustment shall be a dispute under the Disputes clause. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

(End of clause)

BOÖTES, INCORPORATED

SCENARIO:

An announcement has been published in the Government-wide Point of Entry (GPE) [formerly CBD] that Boötes, Incorporated was awarded a Cost Plus Fixed Fee (CPFF) contract (N68790-01-C-2468) with the Navy to furnish six (6) each Type B-15 shelters. The terms of the contract were:

Cost estimate	$34,000,000
Fixed Fee	$ 2,380,000

A separately-priced Contract Line Item Number (CLIN) in the contract listed the expenditure to be made on the VE program as $275,000. (That $275,000 figure will *not* enter your calculations in any way - this is an investment in the contractor's VE efforts on the part of the Government and we will not count it as part of the contractor's allowable development and implementation costs (CADIC) nor will it be considered a "Government cost" in the calculation of Net Acquisition Savings. It is considered to be "seed money.")

Boötes' initial VECP was accepted by the Navy on 8 June 2002, with the following terms being agreed to: the average instant *unit* cost reduction is estimated to be $50,000 if it is applied to all six units on the contract; contractor costs incident to VECP development and implementation are agreed to be $360,000 (remember, *none* of the $275,000 Program Requirement line item is contained in this amount nor in the following amount) and the agency costs that would result from implementing the accepted VECP are agreed to be $14,000. The first unit incorporating the VECP was delivered to the Government (and accepted by DD 250) on 21 September 2002. The end of the delivery schedule on the Instant contract was 20 October 2002.

The Contracting Officer chose to put Alt. I (APR 1984) to FAR 52.248-1 (FEB 2000), in the solicitation and the contractor apparently agreed to that clause as they submitted their proposal with no exceptions.

QUESTIONS:

1. If the VECP is accepted in time to implement it on all six units, what will be the contractor's share of savings on the instant contract?

2. What will be the Government's share?

3. What is the adjusted estimated cost of the instant contract as a result of the calculations so far? [See FAR 52.248-1 (h) (2)]

TURN THE PAGE - THERE'S MORE TO COME!

SCENARIO II:

A Letter Contract N68790-01-C-4567 for ten (10) each Type B-15A shelters was finally definitized on 17 January 2002, with BPJ Industries (which date, by the way, is *before* 8 June 2002). After discussions with BPJ, it was agreed that Boötes' VECP would be incorporated in the BPJ contract and the price reduction on the BPJ contract was negotiated to be $540,000.

QUESTIONS II:

4. What are these VE savings called, if anything?

5. If there are any savings, what is Boötes' share?

6. How is Boötes' share of those savings to be paid to Boötes?

SCENARIO III:

Another contract, N68790-03-C-5472, has been definitized on 26 February 2003, with Boötes for 126 units of Type B-15C shelters. This follow-on contract will incorporate the VECP submitted under contract N687990-01-C-2468 (the instant contract above). It has been established to the satisfaction of the parties that 96 units of the later contract will be schedule for delivery during the sharing period and the remaining 30 units are scheduled to be delivered after the sharing period on the instant contract ends. It has further been established that the 126 units will follow the 6 units of the instant contract in the production line with only a slight break. The *total* cost reduction for the first 102 units (the 6 units on the instant contract and the 96 units scheduled for delivery during the sharing period) has been calculated to be $4,333,204. Cost reduction attributable to the 30 units falling outside the sharing period has been calculated to be $1,140,000.

QUESTIONS III:

7. What will be the contractor's share of future savings?

8. What will be the Government's share of these future contract savings?

9. Just for your edification, what will be the Government's **total** future benefit as a result of this VECP?

THE DORADO COMPANY

SCENARIO:

The Army Corps of Engineers has entered into a Cost Plus Incentive Fee (CPIF) contract with the Dorado Company. Despite spirited objections from potential contractors (including Dorado), the Head of the Contracting Activity (HCA) signed a determination that the attached clause (Alt. III (APR 1984)) to FAR 52.248-1 (FEB 2000)) should be included in the solicitation - and it is, in fact, used in the contract.

The terms of the contract are as follows:

Target cost	$1,300,000
Target Fee	$ 117,000
Maximum Fee	$ 195,000
Minimum Fee	$ 39,000
Fee Adjustment Formula	70/30

The instant contract calls for a quantity of 100 units to be delivered. With timely processing, it is anticipated that the VECP could be implemented on Unit #41. The average unit cost reduction in the instant contract (units 41 - 100) has been estimated to be $1,500. Government costs that are tied to VECP implementation amount to $6,000 and the contractor costs to implement the VECP are estimated to be $9,000.

QUESTIONS:

1. I would like for you to calculate what the contractor's share of savings would be on the instant contract **IF WE WERE TO MAKE A "STANDARD" VE SHARE CALCULATION**? [In that calculation, better pay *very* close attention to what FAR 52.248-1 (g) (3) tells you regarding Government costs!]

After you've completed this question, think about the answers to questions 2 and 3 and we'll discuss them together. The answers to these questions are subject to quite a bit of interpretation as to what para's (g) (3) and (h) (1) are telling you. Choose your responses and see how close you come to what the Instructor feels is appropriate.

You should, however, answer questions 4 and 5 before we have our discussion.

TURN THE PAGE - THERE'S MORE TO COME!

2. What adjustments do you think should be made in the Target Fee? Why (or why not) should any adjustment be made? What about the Maximum and Minimum Fees - should any adjustment be made in them and, if so, how much?

3. Should any adjustment be made in the Target Cost (NB - para (h) (1)!) If you say "no," why did you decide that no adjustment should be made? If you said "yes," what was your basis and rationale for doing so?

4. What is to be done with the $6,000 of Government costs? What if there are no Concurrent or Future contract savings resulting from this VECP?

SCENARIO, CONTINUED:

Dorado has submitted a claim for a collateral savings share amounting to $1,200. Attached to the claim is a veiled threat that if Dorado disagrees with the Government regarding the amount of collateral savings, they (Dorado) will appeal to the ASBCA or the Claims Court - i.e., go through the normal Disputes procedure.

QUESTIONS, CONTINUED:

5. What is the contractor's share of collateral savings?

THE FORNAX COMPANY

SCENARIO:

A very substantial construction project is covered by the Firm Fixed Price (FFP) contract awarded to the Fornax Company by the Naval Sea Systems Command. The price of this construction project contract was negotiated at $44,000,000. The Fornax Company has produced its first VECP with a gross savings estimate amounting to $543,000; the contractor costs are agreed to be $13,000 and Government costs will total $30,000.

The VE clause that is used in this contract is FAR 52.248-3, VALUE ENGINEERING - CONSTRUCTION (Feb 2000) as modified by Alternate I (APR 1984).

QUESTIONS:

1. What will be the contractor's dollar share of savings on the instant contract? [See FAR 52.248-3 (f) (1)]

2. What will be the Government's dollar share of savings on the instant contract? [See FAR 52.248-3 (f) (1)]

3. How should the contract be adjusted to reflect the effect of the acceptance of the VECP - i.e., what is the adjusted contract price? [See FAR 52.248-3 (f) (2)]

MORE SCENARIO:

It has been estimated that total collateral savings for three years will be $150,000.

MORE QUESTIONS:

4. What will be Fornax's dollar share of collateral savings?

5. What will the Government's dollar share of collateral savings be?

6. How will the contract be adjusted to pay Fornax its share of the collateral savings?

HYDRA, INCORPORATED

SCENARIO:

The Army Corps of Engineers has awarded a Firm Fixed Price (FFP) construction contract to Hydra, Incorporated who has, in turn, awarded a subcontract, also FFP, to the Waters Company. Presuming that the necessary editorial changes can be agreed upon without difficulty, the clause that was used in the contract between Hydra and Waters is the same as the one used between the Army Corps of Engineers and Hydra. [To aid you in interpreting the Hydra-Waters contract, substitute the word "Hydra" wherever the clause mentions "Government" and substitute the word "Waters" for "contractor."] Hydra and Waters have come to you asking for assistance in sorting out the sharing of a VECP that the subcontractor has originated. Subcontractor costs are $29,000; prime contractor costs are $19,000; and Government costs are $49,000. The estimated savings resulting from the implementation of the subcontractor-submitted VECP are expected to be $350,000. FAR Clause 52-248-3 (FEB 2000) was placed on the Hydra contract with the Government.

QUESTIONS:

1. What will be Hydra's *net* share of savings on the instant contract - i.e., what will it have left after it gives Waters the share due the subcontractor?

2. Although it's really not a matter that concerns the Government (i.e., it is an issue between the prime and its sub), what will Waters receive from Hydra as its share of savings on the instant contract?

3. What will be the Government's share of savings on the instant contract?

SECOND SCENARIO:

Hydra's President was talking to Fornax's Manufacturing Manager at a trade conference and was told by the Fornax representative that Fornax felt they were treated rather shabbily by the Government regarding collateral savings. Hydra wants to know if they can expect similar treatment if there are any collateral savings resulting from Water's VECP.

SECOND QUESTIONS:

4. Do you have any good news to tell Hydra about collateral savings? If so, what is it?

GRUS, INC.

SCENARIO:

An Air Force, Firm Fixed-Price (FFP) contract for aircraft parts awarded to Grus, Inc. has resulted in a FFP subcontract going to the Tiertous Corporation. The companies are presently trying to adapt a FAR clause for use in the subcontract. Presuming that the necessary editorial changes can be agreed upon without difficulty, the clause that was used in the contract between Grus and the Air Force (FAR 52.248-1 (FEB 2000)) will also be used in the contract between Grus and Tiertous. [Again, you should make the word substitutions as you did in the Hydra case - i.e., substitute the word “Grus” wherever the clause mentions “Government” and substitute the word “Tiertous” for “contractor.”] The FFP prime contract was for an amount of $10,000,000 and the FFP subcontract was for $4,000,000. Almost immediately following the contract signing, the Tiertous Corporation sent in a VECP which is expected to result in savings of $350,000 ($700 cost reduction per unit applied to 500 units on the Instant contract). Tiertous’ costs of testing, preparing, and submitting the VECP plus costs to implement it are expected to total $29,000. Similar costs for Grus are estimated at $19,000 with Government costs expected to soar to $49,000.

QUESTIONS:

1. What will be Tiertous’ share of savings on the instant contract?

2. What will be Grus’ *net* share of savings on the instant contract - i.e., what does Grus have left after it gives Tiertous its share?

3. What will be the Government’s share of savings on the instant contract?

4. What will be the revised contract price on the subcontract?

5 What will be the revised contract price on the prime contract?

TURN THE PAGE - THERE’S MORE TO COME!

FURTHER SCENARIO:

The Government has estimated that collateral savings in one year to be around $60,000.

FURTHER QUESTIONS:

6. What will be Grus' share of collateral savings?

7. What will be Tiertous' share of collateral savings?

8. What will be the Government's share of collateral savings?

THE LEPUS CORPORATION

SCENARIO:

The Naval Sea Systems Command has finally concluded their negotiation of the Fixed Price Incentive (Firm target) (FPI-F) contract with the Lepus Corporation. Since the end item, an innovative type of destroyer escort, involves an unusually extended production lead time, the contractor and the Contracting Officer have agreed that the "extended period for production" modification to FAR 52.248-1 (FEB 2000) will be utilized, as shown in the clause attached. The terms of the instant contract are as shown below:

Target Cost	$50,000,000
Target Profit	$ 7,000,000
Target Price	$57,000,000
Price Ceiling	$60,000,000
Profit Adjustment Formula	80/20

The following narrative uses a time scale beginning with Month 1 of the instant contract, at which point the Lepus VECP was accepted by the Navy:

> Near the end of Month 6, the first unit of the instant contract was accepted by the QAR. In Month 12, a second unit was accepted; in Month 18, a third unit; a fourth unit in Month 24; in Month 30, a fifth unit and in Month 36, the sixth and final unit of the instant contract was accepted. All the units accepted incorporated the VECP. The sharing period was agreed to extend from Month 6 through Month 41 [Contracting Officer determined that the sharing period would be 36 months].
>
> A follow-on FPI contract for 3 units has been awarded by the same contracting office for essentially the same end item unit, incorporating Lepus's VECP. When the time scale above is utilized, it can be shown that the follow-on contract was awarded in Month 36 but the follow-on units are not scheduled for delivery to begin until Month 43, continuing until Month 83.

The future unit cost reduction has tentatively been set at $117,500 each, and both Government costs and contractor costs are expected to be negligible.

TURN THE PAGE - THERE'S MORE TO COME!

QUESTIONS:

1. What will be the contractor's share of savings on the future contract, if anything?

2. If there are any future contract savings, what is the Government's share?

3. How will the contract be adjusted to provide the contractor's share, if you determine that Lepus is, in fact, going to get any share of future contract savings?

"EXTENDED PERIOD FOR PRODUCTION MODIFICATION TO FAR 52.248-1 – VALUE ENGINEERING (FEB 2000)"

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include --

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery ***under contracts awarded during the sharing period.*** If this contract is a multiyear contract, future contract savings include savings on quantities funded after VECP acceptance.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. the Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery ***under contracts awarded during the sharing period***, (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-3 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

MUSCA ASSOCIATES

SCENARIO:

Recently, the Defense Personnel Support Center of DLA negotiated a Cost Plus Fixed Fee (CPFF) contract with Musca Associates. The contract called for a universal survival kit that could accept atmospheric changes for water depths of 1,000 fathoms up to an altitude of 90,000 feet. For reporting purposes, the contract has been characterized as a low rate initial production (LRIP) contract and, as such, contained the "LRIP modification" to FAR 52.248-1. The instant contract called for 21 units, Type M-4, to be delivered in a 12-month period. The contract terms were:

Cost estimate	$ 7,000,000
Fixed fee	$ 560,000

The first VECP submitted by Musca has an estimated unit cost reduction for the instant contract of $45,000. When the Contracting Officer makes adjustment for the effects of learning, the future unit cost reduction is converted to $40,000. If the VECP is accepted in a timely fashion, the change could be implemented on all 21 units of the instant contract (shown as Y-0 below). Contractor costs are listed as $14,000 and Government costs are shown as $36,000. The clause used in the contract is FAR 52.248-1 (FEB 2000) with the "LRIP modification."

QUESTIONS:

1. What will be the contractor's share of savings on the instant contract?

2. What will be the Government's share of savings on the instant contract?

3. What adjustments need to be made to the instant contract amounts (cost estimate and fee) as a result of accepting the VECP - i.e., what is the revised cost estimate and what is the revised fixed fee?

SCENARIO, CONTINUED:

Follow-on contract coverage is for the same end item unit (awarded by the same contracting office) was awarded to Musca; and will utilize the VECP. The Five-Year Defense Program for the 611 units covered by the follow-on contract is shown as Y-1 through Y-5 below (remember, Y-0 is for the instant contract).

TURN THE PAGE - THERE'S MORE TO COME!

Month Year	J	F	M	A	M	Je	Jl	A	S	O	N	D	Total
Y-0	1	-	2	-	3	-	4	-	5	-	6	-	21
Y-1	6	6	7	7	15	9	8	8	10	10	10	10	106
Y-2	12	12	13	13	14	14	15	14	13	16	16	13	165
Y-3	15	16	17	14	13	13	13	12	12	12	12	12	161
Y-4	11	11	10	12	10	11	9	11	9	10	10	8	122
Y-5	6	6	6	6	6	6	6	5	4	3	2	1	57

NOTE: When you are making these estimates of future production, always keep in mind Yogi Berra's aphorism regarding forecasting: "You must be very careful when you're making predictions - *especially* about the future!"

QUESTIONS, CONTINUED:

4. What is the number that represents the highest 36 consecutive months of planned production - i.e., "How many?"

5. What is the contractor's share of future contract savings?

6. How does the contractor realize its share of future contract savings - i.e., how is the contract modified to give those shares to Musca?

7. Just for your own information, calculate how much the Government receives from the VECP - how much from the Instant contract and how much it retains from the Future contract.

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"LOW-RATE INITIAL PRODUCTION MODIFICATION TO FAR 52.248-1 – VALUE ENGINEERING (FEB 2000)"

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include --

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by ***a number equal to the quantity required over the highest 36 consecutive months of planned production, based on planning or production documentation at the time the VECP is accepted*** **.**If this contract is a multiyear contract, future contract savings include savings on quantities funded after VECP acceptance.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. the Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by ***a number equal to the quantity required over the highest 36 consecutive months of planned production, based on planning or production documentation at the time the VECP is accepted,*** (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-3 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

THE MAYSVILLE MENAGERIE

The Maysville Menagerie, an electronics firm, is trying very hard to become an active participant in the VE arena and as a result of extraordinary efforts on the part of their engineering staff, have generated not one but TWO potential VECP's that they are considering submitting to the DLA buying office. The VECP's involve possible substitutions for an electron tube specified in their Firm Fixed-Price contract for 1000 wave propagation units.

If the work on the wave propagation unit is performed as specified, the cost per unit will be $60 and there is no requirement to do anything more than what has already been done - i.e., the contractor is ready to perform the contract.

Proposal I involves substituting a solid-state circuit for the electron tube in the specifications. If that VECP is accepted, it will necessitate the expenditure of $18,000 to develop, test and implement the VECP and the per unit cost of the wave propagation unit with the solid-state circuit will be $30. There will be no Government costs involved if the VECP under Proposal I is accepted.

Proposal II suggests the substitution of a microcircuit for the specified electron tube. If the VECP in Proposal II is submitted and accepted, that will require $27,000 in development, testing and implementation costs but the unit cost of the wave propagation unit will drop to $20. As in the case involving the Proposal I VECP, there will be no Government costs necessitated by acceptance of the Proposal II VECP.

The clause the DLA buying office chose to put in the contract between themselves and Maysville is FAR 52-248-1 (FEB 2000).

1. Which VECP, if any, would you recommend Maysville submit?

GO AHEAD - TURN THE PAGE. DON'T PLAY LIKE YOU DIDN'T KNOW THERE'S ANOTHER QUESTION LURKING THERE!

2. Would your answer to Question 1 hold true regardless of the quantities to which the VECP was applied? If not, try to calculate how far the number of units to which the VECP applied would have to decrease before your decision in Question 1 would change? You may want to use a modified break-even analysis (to calculate a Point of Indifference) or sketch out a graphical solution to answer Question 2. Or, then again, you may want to just wait for the Instructor to work it all out for you. Just in case you would like to try working this question but need a start, below is the basic break-even expression that you will need. Just remember, you'll have **three** break-even points - Specified vs. Proposal I; Specified vs. Proposal II; and Proposal I vs. Proposal II. Set the two alternatives you are solving for equal to each other, fill in the known information on each side of the equation, and solve for the number of units.

$$\text{Fixed Cost} + \left(\frac{\text{Variable Cost}}{\text{Unit}}\right)(\text{Number of Units})$$

To illustrate, suppose you are calculating the Point of Indifference between Proposal I ("I") and Proposal II ("II"). This could be set up as follows:

$$FC_{I} + \left(\frac{VC}{Unit_{I}}\right)(\text{\# of Units}) = FC_{II} + \left(\frac{VC}{Unit_{II}}\right)(\text{\# of Units})$$

$$\$18{,}000 + (\$30)(\text{\# of Units}) = \$27{,}000 + (\$20)(\text{\# of Units})$$

$$(\$30)(\text{\# of Units}) - (\$20)(\text{\# of Units}) = \$27{,}000 - \$18{,}000$$

$$(\$10)(\text{\# of Units}) = \$9{,}000$$

$$\text{\# of Units} = 900$$

What this means is that if the VECP is applied to 900 units, it makes no difference whether Proposal I or Proposal II is used. Now, as to which proposal should be submitted if the number of units goes to 950 or to 850-- I'll leave to you to figure - you've had enough help for now.

Remember, you have two more Points of Indifference to calculate!

CHAPTER D

VALUE ENGINEERING

SUPPLEMENTAL READINGS

AN INTRODUCTION TO GOVERNMENT CONTRACTING

by

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Introduction.

The contracting function (also called acquisition, buying or purchasing) is one of the most misunderstood elements of the Federal government. The purpose of this chapter is not to make contracting officers out of those of you who are not already but to perhaps enlighten you to what those in contracting do and why they do it in ways that sometimes may appear to be counter to the mission of the individual or unit that wants something procured so that the mission can be accomplished.

Hopefully, by the time you've completed this chapter, you will have a better understanding of who has the authority to write a contract in the name of the United States government and where he/she gets the authority to do so. You'll also see where the Contracting Officers go for guidance - and as a result of the information contained in that guidance, why they may not have the flexibility to do what you want done in the way you want them to do it. There are some procedures and times prescribed that they cannot deviate from, and others that permit more flexibility. Once you understand those limitations on the Contracting Officer, you and the Contracting Officer can work more effectively as a team.

After all the authority/guidance/constraint issues have been discussed, we'll turn to the elements that all contracts must contain and then look at the Federal procurement process. The tie between the two subjects is that at certain points in the process, contracts are formed and modified. All the elements of a legally-binding contract come together at the award of a Government contract. We'll discuss the two methods of contracting that are usually used (sealed bidding and competitive proposals) and then look at the types of contracts that can result from a contractual action.

Once a Government contract has been written, there are procedures whereby that contract can be changed to meet the changing needs of the Government (or, the contractor). We'll talk about the legal ways to make these changes and then describe a way to change a contract that is definitely frowned upon!

Lastly, we'll talk about the Competition in Contracting Act (CICA). This Act is largely responsible for changes in the way the Contracting Officer must deal with your requests. Congress felt that competition in Government procurements was not always being utilized, so legislation was passed that spells out in plain, unambiguous language what Contracting Officers can and cannot do. To assure that competition is being maximized, the role of the Competition Advocate is discussed.

Contracting Authority

The first thing we need to discuss is where the Contracting Officer gets the authority to sign a contract for the United States. Not just anyone who is a citizen o the U. S. can sign a contract on the behalf of the Government and have that contract recognized in a court of law. That could/would result in chaos!

To avoid such a situation, there has been established a chain of delegation down to specific individuals, giving those persons - and ***only*** those persons - the authority to sign a contract for the United States government.

Obligation Authority. The Constitution of the United States, in Article 1, Section 8, empowers congress, among other things:

- "to . . . provide for the common Defense . . .
- To declare War . . . . ;
- To raise and support Armies . . . .
- To provide and maintain a Navy;
- To make Rules for the Government and Regulation of the land and naval Forces;
- To provide for calling forth the Militia . . .
- To provide for organizing, arming and disciplining, the Militia. . . . - And
- To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers,...."

You will note that there is no authority mentioned in the Constitution for the actual expenditure of monies. Who has the authority to "support Armies" and "maintain [the) Navy"? Since the Constitution did not provide for these expenditures, the Supreme Court, in 1823, rendered a decision which said that:

> "....The United States is a government, and consequently, a body politic and corporate, capable of attaining the objects for which it was created, by the means which are necessary for their attainment. . . . . It will certainly require no argument to prove that one of the means by which some of these objects are to be accomplished, is contract; the Government, therefore, is capable of contracting, and its contracts may be made in the name of the United States...." [United States v. Maurice, 26 F. Cas. 1211, 1216 (No. 15747)(C.C.D. Va 1823)]

Another case in 1831 stated that:

> ". . . the United States being a body politic, may, within the sphere of the constitutional powers confided to it, and through the instrumentality of the proper department to which those powers are confided, enter into contracts not prohibited by law, and

> appropriate to the just exercise of those powers . . . . [United States v. Tingey, 30 U.S. (5 Pet.)-114 (1831))]

What the Supreme Court found was that the United States government had the inherent power to use contracts in carrying out its duties and exercising its powers. This authority to contract for the elements found in Article-I, Section 8, is shared by the Executive and the Legislative branches of the Government.

Law of Agency. The U. S. government operates through the law of agency - that is, the individual to whom the Constitution granted the authority to contract has the power to delegate that authority to an agent or agents to act in the stead of that principal - the one with the contractual authority. In the case of the Department of Defense, the Executive Department head - the President of the United States - has delegated contracting authority, through the Secretary of Defense, to the Under Secretary of Defense for Acquisition, who in turn has delegated that contracting authority to the Secretary of the Air Force. Further delegation has been made down through the Assistant Secretary of the Air Force for Acquisition and the Director of Contracting and Manufacturing Policy. The preceding individuals delegate contracting authority to the Major Command (or Major Subordinate Command) Head of the Contracting Activity. That individual has the authority to make one final delegation - to the Contracting Officer.

The Federal Acquisition Regulation (FAR) defines a Contracting Officer as one who, either by virtue of their position or by appointment, is authorized "to enter into, administer, and/or terminate contracts and make related determinations and findings. The term is further defined as including "certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the contracting officer." (FAR 2. 101) Agents of the Government operate under actual authority and the written expression of that authority is the "warrant" issued by the Head of the Contracting Agency upon appointment of the Contracting Officer. That authority may be unlimited or may be limited and such limitations, if any there be, will be stated on the warrant. Contracting Officers, all of whom are warranted, may be termed Procurement Contracting Officers (PCO's), Administrative Contracting Officers (ACO's) or Termination Contracting Officers (TCO's), depending on the function they primarily perform. One individual may, however, perform all of these functions and typically does at the base level. On the systems level, though, the different functions are assigned to separate individuals.

Types of authority. As was indicated above, the Contracting Officer possesses actual authority as evidenced by the warrant. There is another type of authority that creates problems within government contracting and that is the doctrine of apparent authority. In a civil matter between two private parties, certain individuals may "appear" to have the authority to bind their principal and courts will usually hold that an agreement made by an agent with apparent authority will be binding on the principal. In dealings between the government and private parties, there is no such thing as apparent authority. Further discussion of this issue is contained later in this chapter.

Sources of Contracting Officer Guidance.

According to Federal Acquisition Regulation (FAR) 1.603-2, when appointing Contracting Officers the individual's experience, training, education, business acumen, judgment, character and reputation should be considered. Even considering all those factors, the Contracting

Officer is not omniscient - he/she doesn't know everything about everything. To supplement their business judgment and to provide guidance in their decision making, there are several sources to which (and to whom) the Contracting Officer can and must turn. The first that will be discussed are those codified sources and then we will talk about the other disciplines that the Contracting Officer must consult from time to time.

The Written Word. Contracting Officers do not make decisions solely on the basis of their good judgment, although that does serve to guide their actions in areas where more formal guidance is lacking. Contracting Officers are spending public monies (that is, the money that they spend for the benefit of the Government comes from the taxpaying public) and that necessitates that they do things in a bit more structured manner than a private individual or contractor. The Contracting Officer has statutes, executive orders, court decisions, decisions of administrative agencies, regulations and the Office of Federal Procurement Policy (OFPP) to guide their contracting activities. “Statutes" is a synonym for laws and are the output of Congress while Executive Orders are directives issued by the President. Decisions of courts are the result of interpretations of other written guidance - regulations, statutes, and executive orders. Some of the agencies that make decisions regarding government contracting are the Comptroller General of the United States (the General Accounting Office), the Attorney General of the United States, and Boards of Contract Appeals. Since 1 April 1984, all Federal executive agencies have had as their primary contracting guide the Federal Acquisition Regulation (FAR). This basic regulation is supplemented by agency-specific guidance and can be further supplemented by department, major command and major subordinate command guidance. For example, the FAR is supplemented by the Department of Defense Federal Acquisition Regulation Supplement, or DFARS. That is further supplemented by Department of the Army (AFARS), Department of the Air Force (AFFARS) and department of the Navy (NAVSUP). Further supplementation is permitted as, for example, the Air Force Material Command supplements the Air Force supplement. The last source of Contracting Officer guidance is the Office of Federal Procurement Policy (OFPP). That office, part of the Office of Management and Budget, prescribes uniform contracting policy for all federal agencies.

The Contracting Officer' s Team. A prudent Contracting Officer will not, nay, cannot, work in a vacuum. They must seek the guidance and assistance of others in specialties such as legal,-financial, engineering, manufacturing, property, industrial security, labor compliance, small and disadvantaged business utilization, competition advocates, etc.

Contract Elements

Every contract - to be enforceable in a court of law - must contain certain elements. Otherwise, the court will attempt to “supply” them - that is, infer whether they were present, even if not so stated or obvious. Let's look at what these elements are and see why the courts have determined they must be included.

A “contract" has been defined as “a promise or set of promises for the breach of which the law gives a remedy, or the performance of which the law in some way recognizes as a duty" (The Restatement of the Law Contracts, Section 1 (American Law Institute, 1932)). In order to form one of these enforceable agreements, certain elements must be present. First, there must be at least two persons who must, by offer and acceptance, manifest assent to the terms of the contract. If Individual A extends an offer to, for example, sell something to Individual B, Individual B has three basic alternatives available. He/she can accept the offer as extended, reject the offer, or make a counterproposal. If such a counterproposal is extended, that counterproposal becomes a "counteroffer" and now Individual A has the same three alternatives available that Individual B did in the first scenario.

Next, there must be consideration present - the quid *pro quo,* or "something for something." Each party to a contract receives something of value and gives something of value. Implied in this interchange is what is called "mutuality of obligation" - if both parties are not bound by the contract, then neither party is bound. The requirement of consideration in contracts stems from the theory that it is more likely that one party to a contract will perform according to his or her promise if there is a possibility of receiving something of value in exchange and, therefore, it will not y force compliance by court action. Furthermore, the courts feel it is more likely that a promise has in fact been made where there is consideration supporting it than where the promise is bare.

Thirdly, each of the parties must have legal capacity to contract - i.e., not be mentally impaired or legally underage. A mnemonic device that helps to remember categories of individuals the law considers to lack capacity to contract is to remember the three "IN's" - INfants, INtoxicated, and INcompetent (mental incompetence). Generally, contracts made by these individuals are voidable i.e., they can be repudiated. The law uses the concept of legal incapacity to protect parties who may not have the ability to understand the terms of an agreement.

The fourth element is that the agreement must not require the performance of an illegal act by either party. Clearly, the courts of the land should not be in the business of enforcing a contract which calls for the performance of an illegal act. The liberty to contract between citizens is fundamental but it is certainly not absolute. That right must be subservient to the public welfare and reasonable restrictions may be imposed when clearly required for the public interest.

Fifth, there must be certainty of terms. The contract must be sufficiently clear so that the court can determine just what the parties agreed to. The courts will apply well-established rules of construction to construe the meaning of the language used by the parties. Even important provisions, such as price and delivery schedule, when missing, have been supplied by the courts (a "reasonable price" or a "reasonable time") so that they might find the contract enforceable.

Caution is called for here - the contract must be so indefinite as to have no exact meaning for courts to find that it was so ambiguous that it is unenforceable!

Finally, the agreement must be in a form required by law. As a general rule, a contract need not be in writing to be enforceable. However, certain contracts must be in writing to be enforced such as contracts for real estate and contracts extending over one year in term. These exceptions were stated first in the Statute of Frauds, enacted in England in 1677. This law was enacted to prevent many fraudulent practices associated with matters that the Statute dealt with. As a practical matter, oral contracts are not used in Government contracting due to requirements of the funding statutes. Emergency procurements and oral orders under $10,000 placed with Federal Supply Schedules are permitted, but subsequently there must be a written document.

Federal Procurement Process

There is a process that will describe all the steps that a procurement for the Federal government can go through. The extent and number of steps any particular procurement will follow in the process will be determined by the dollar value and complexity of the purchase.

Pre-award phase. Before the contracting function becomes officially involved in a proposed procurement, there has, hopefully, been a good bit of activity that has already taken place. That activity is called procurement planning. The office that foresees a need for an item or service must either select or adapt an existing specification or create a new one if there is not an existing specification. A cost estimate must be prepared and a budget authorization and appropriation submitted, if required. Even though the contracting office is not officially involved during this portion of the acquisition planning phase, it is certainly recommended that liaison be established and maintained throughout the proposed procurement. A Contracting Officer' s first exposure to an acquisition should definitely not be when the purchase request comes into the contracting office. Many problems between the requiring activity and contracting can be reduced or totally eliminated by bringing contracting into the loop during the planning phase.

Once the requirement has been firmed up, including required quality levels, delivery requirements, necessary military or Federal specifications, and data requirements, a purchase request is prepared and sent to the contracting office for that office to buy the needed supply or service.

The contracting office uses the funded purchase request as its authority to prepare a source list and the solicitation. The solicitation is given as wide a dissemination as possible so that competition may be maximized. A Bidders' Mailing List is prepared using the office's own files and a synopsis of the requirement is published in the Commerce Business Daily. The publishing of a synopsis informs potential contractors all over the United States (as well as foreign contractors) of needs even down to base level. The solicitation is sent to interested parties and responses to that solicitation are received by the Contracting Officer's authorized representative. Prior to receipt of offers, there may be activity by the contracting office to make certain that all parties intending to submit offers know what the Government intends to buy and what the contractor's responsibilities will be.

After receipt of the bids or proposals, one or more of the offerors must be selected for award. This selection process may be a very simple one conducted by the Contract Specialist or it may involve a lengthy and involved source selection process. Once award is made, the activities of the Procurement Contracting Officer (PCO) are, except for some unique situations, over. The contract is delegated out to an Administrative Contracting Officer (ACO) for administering the contract.

Post-award phase. The ACO's office must review and monitor the contractor's purchasing, quality control, property management, accounting, personnel, security, as well as any other systems that the ACO deems deserving of attention. In addition to reviewing these systems, the Administrative Contracting Officer is also responsible for monitoring the contractor's performance toward completing the contract. Any modifications to the contract are usually handled by the Contract Administration Office and progress payments are verified.

Upon completion of the contract, the ACO will close out the contract. If, however, there are problems prior to completion, responsibility for the contract will be delegated to a Termination's Contracting Officer (TCO). These problems may arise with the contractor in which case the TCO will preside over a Termination for Default. If the contract is cut short because the Government no longer needs the item or service, the contract will undergo a Termination for Convenience.

Methods of Contracting

Through the FAR, the Government provides two techniques or methods of soliciting proposals from contractors - the sealed bid and competitive proposal (or, as it is usually called, negotiation). The regulation states that sealed bidding must be used if certain conditions are met but the use of negotiation techniques has eased somewhat since the enactment of the Competition in Contracting Act (CICA). Pre-CICA required that one of 17 exceptions had to be invoked before negotiation could be used in place of formal advertising (the old term for "sealed bidding"). Since the advent of CICA, so long as full and open competition is being utilized (to be discussed later), competitive proposals (negotiation) is an acceptable procedure for soliciting proposals. The only requirement is that there must be some documentation (which may be very brief) as to reasons sealed bidding was not used.

Sealed bidding. Sealed bidding is the preferred method of contracting and shall be used if: (1) time constraints permit the solicitation, submission [by contractors], and evaluation of sealed bids; (2) award can be made on the basis of price and other price-related factors; (3) discussions with offerors will not be necessary; and (4) there is a reasonable expectation that more than one sealed bid will be received. Implicit in these requirements is that the specifications describing the Government's needs are adequate for contractors to bid without any further discussion with the Government. The solicitation that is issued under sealed bid procedures is called an Invitation for Bids (IFB). As bids are received, they are placed, unopened, in a locked bid box. At a previously announced time and place, all the bids are opened, read aloud, and recorded. Since the sealed bid will result in the expenditure of public monies, the bid opening is public and anyone can attend, whether or not they are one of the potential parties to the contract. Once an apparent low bidder is identified, a responsibility determination must be made to decide if the contractor will likely satisfactorily complete the contract if given the award. Factors that are examined in this responsibility determination are the contractor's financial, managerial, technical, quality, and facility capabilities - The law states that the contract resulting from a sealed bid must be either a firm fixed-price contract or a fixed-price contract with economic price adjustment. The sealed bid process has much appeal to contractors as it is the method used in many commercial acquisitions. It is inherently fair to all competing bidders and is an efficient method of contracting, provided all the requisite conditions are met.

Competitive proposal (also called negotiation). In most system level acquisitions and in many contracts for spares, the sealed bidding process is not appropriate. There are requirements to engage in discussions with prospective offerors and awards are often made on the basis of technical factors as well as price. In instances where any of the four conditions necessary to issue a sealed bid proposal are absent or questionable, competitive proposals, or a negotiated procurement, is called for. That being the case, a Request for Proposal, or RFP, is issued rather than an IFB. Since contractor's can make alternate proposals that might be proprietary, the responses to an RFP are not opened publicly. The Contracting Officer's authorized representative, the Contract Specialist, will open the responses, select those in the competitive range, and initiate discussions with those remaining in contention after this initial review. Negotiation permits the discussions, fact-finding, and bargaining (offers and counteroffers) necessary to come to a full understanding of the requirement and the approach the contractor proposes to take to completing the contract. The basis of the contractor's costs and the trade-offs that ,a be necessary among performance, schedule, logistics support and price are also disclosed during the discussions/negotiations. Source selection can be formalized by use of a Source Selection Evaluation Board or it can be done more informally by the Contract Specialist with assistance from technical personnel. As in the case of awards made as the result of a sealed bid solicitation, a responsibility determination must be made prior to award.

Types of Contracts

There are a number of contract types available to the Contracting Officer that will permit an appropriate degree of risk being borne by each of the parties to the contract. The degree (or amount) of risk that each party should bear is determined by the stage of development of the program and the level of confidence that the costs used to calculate the proposed price will be reliable.

Profit is one of the prime motivators to the contractor's performance. The type of compensation arrangement chosen (i.e. , the contract type selected) should be one that will result in a reasonable degree of risk (cost, technical and schedule) being assumed by the contractor and, at the same time, will provide the contractor with the greatest incentive for efficient and economical performance.

During World War I, to minimize risk to contractors who were exposed to unstable prices for material or labor, the Government permitted the use of Cost-Plus-a-Percentage-of Cost (CPPC) contracts. As could be anticipated, these contract types proved very popular with contractors but were definitely not to the Government's advantage. The interests of the contractor were best served by inflating costs as these higher costs resulted in increased profits. The interests of the contractor were diametrically opposed to the Government's. Because of the abuses either actually experienced or potentially inherent, procurement regulations issued before the Second World War specifically prohibited the use of CPPC contracts. Other contract types were developed that permitted the flexibility required in contracting for items in which there is cost uncertainty.

The "pure types" listed in FAR Part 16 will be discussed below but the reader should be aware that the FAR permits - and encourages - the use of any combination of types in negotiated contracts. Notice that contracts awarded under sealed bidding procedures are not mentioned in the preceding sentence. The FAR permits the use of firm fixed-price contracts (FFP) and fixed-price contracts with economic price adjustment (FP-EPA) in contracts resulting from sealed bidding.

Fixed Price contracts. Fixed price contracts are the basic and most preferred type - where appropriate - for government contracts. Fixed price type of contracts provide for a firm price or, in appropriate instances, an adjustable price. This adjustment may be made on the basis of fluctuations in the price of specified cost elements or on the basis of the contractor's control of the costs of performance. The contractor agrees to furnish a product or perform a service and the government agrees to pay either a firm, fixed price or, if the contract includes a tentative price subject to later adjustment, a price subject to a specified ceiling.

Firm-Fixed Price contract. With a Firm-Fixed-Price (FFP) contract, the price to be paid to the contractor is not subject to adjustment because of variations in the cost of performance not anticipated by the contractor. The contractor must perform the contract at the specified price, so long as the contract is not changed or modified in any way. To express this relationship in risk-sharing terms, the FFP contract has a 0/100 share arrangement. The Government does not share in any differences between actual and estimated costs. The contractor assumes complete responsibility for all contract costs.

Fixed-Price contract with Economic Price Adjustment. The next contract type discussed in paragraph 16.203 of the FAR is the Fixed-Price with Economic Price Adjustment (FP-EPA) contract. The fixed price in that contract is adjusted upward or downward based upon the occurrence of contractually-specified economic contingencies that are clearly outside the control of the contractor. Economic price adjustment clauses are designed to cope with widely-fluctuating costs of certain materials and other economic uncertainties. Those conditions do not permit contractors to provide realistic price quotes items that the Government requires.

Fixed-Price Incentive contract. Fixed-Price Incentive (FPI) contracts provide a means whereby the Government and the contractor agree to share in cost deviations from target costs (both underruns and overruns - up to a certain point) and to adjust final profit and final price after contract completion. The point beyond which the Government does not share in cost overruns is called the “Point of Total Assumption" and is the point at which the contractor assumes full responsibility for any costs incurred. The effect of this PTA is that the Government and the contractor, agree to share, in costs on some agreed-upon percentage (e.g., 70/30, 65/35, 82.548/17.452) but beyond the PTA, the cost share ratio reverts to that in the FFP arrangement - 0/100. Fixed Price Incentive contracts may be written with Firm Targets (FPI-F) or with Successive Targets (FPI-S).

Fixed-Price contracts with Price Redetermination. Fixed-Price contracts with Price Redetermination (FPR) are made in two distinct arrangements - with Prospective price redetermination (FPR-P) and with retroactive redetermination (FPR-R). In the first instance, there is a firm-fixed-price contract established for an initial period of contract performance and, at a stated time or times during performance, a prospective redetermination of the price for subsequent periods of performance. The retroactive FPR arrangement provides for a fixed ceiling price and a retroactive price redetermination (within the ceiling) after completion of the contract. Since the negotiated degree of cost responsibility of the contractor is made after contract performance, the evaluation is made at a point in time when it can have no effect on the quality of the contractor’s performance. For this reason, use of the FPR-R-type contract is limited to small-dollar, short-term contracts for research and development.

Firm-Fixed-Price, Level-of-Effort contract. The last fixed-price contract type is the Firm-Fixed-Price, Level-of-Effort (FFP-LOE). In this type contract, a fixed price is established for which the contractor is required to provide a specified level of effort, over a stated period of time, on work that be stated only in general terms. The "product” of the contract is usually a report showing the results achieved through application of the required level of effort. Payment, however, is based on the effort expended rather than on the results a achieved.

Cost-Reimbursement contracts. Cost-reimbursement contracts are used when there **are** uncertainties involved in contract performance that do not permit **costs** to be estimated with sufficient accuracy to use any type of fixed-price contract. In cost-reimbursement type of contracts, the Government agrees to reimburse contractors for reasonable, allowable and allocable costs and the contractor agrees to use its best efforts to complete the contract requirements within the cost estimate. Since the contractor is reimbursed for all its allowable costs, up to the ceiling, there is usually little incentive for the contractor to use materials and labor economically. The appropriate choice of cost-reimbursement contract type can result in the contractor’s "profit" (called "fee" in cost-reimbursement type contracts) being tied to the degree of cost control exercised or in performance varying from the negotiated expectations. Since the contractor incurs costs above the specified ceiling only at their own risk, it is normally not advisable for contractors to do so. As would be expected, once a contractor has expended funds up to the maximum permitted, they may legally discontinue performance - i.e., stop work.

Cost contract. The simplest type of cost-reimbursement contract is the Cost contract. There is no fee paid in this type contract - the contractor is reimbursed only for allowable expenses up to the maximum specified. Cost contracts are appropriate for research and development work, particularly with nonprofit educational institutions or other nonprofit organizations. Cost contracts are also used in contracts for facilities. [As an aside, care must be exercised in discussing contract types to avoid sloppy use of terminology. The general category of contracts in which the contractor is reimbursed for costs incurred is called "cost-reimbursement" contracts, while the "cost" contract is a particular type of cost-reimbursement contract.]

Cost-Sharing contract. Another cost-reimbursement contract in which no fee is paid to the contractor is the Cost-Sharing (CS) contract. The contractor is reimbursed only for an agreed-upon portion of its allowable costs. This type contract recognizes that the contractor may be able to benefit commercially from work done on a government contract and, based on this probable compensating benefit, agrees to share costs with the Government on some agreed-upon percentage. Of course, the relative benefits to be derived will affect the proportion of costs each party will agree to bear.

Cost-Plus-Incentive-Fee contract. Cost Plus Incentive Fee (CPIF) contracts permit reimbursement of the contractor's allowable costs incurred and the fee paid to the contractor is adjusted by a formula (fee adjustment formula) based on the relationship of total-allowable cost to target cost. The fee to be paid the contractor is subject to a negotiated minimum as well as statutorily-mandated maximums. If performance is such that the contractor's costs permit payment at or below the minimum fee, the contract becomes identical to a Cost Plus Fixed Fee (CPFF) contract as the minimum fee becomes a fixed fee. The incentive formula must be set so that the total fee paid the contractor does not exceed the statutory maximum fee permitted (6% for architect and engineer (A&E) service contracts; 10% for contracts for products and services; and 15% for research and development contracts). These maximum fees are applicable to CPIF, CPAF and CFFF contracts.

Cost-Plus-Award-Fee contract. The next cost-reimbursement contract is the Cost Plus Award Fee (CFAF) contract. This type contract has a two-part fee - a base amount fixed at inception of the contract and an award amount that the contractor may earn in whole or in part during contract performance. The base fee is paid the contractor for minimal satisfactory performance (limited to 3% of the estimated cost of the contract by the DFARS while the award portion of the total fee is designed to provide motivation for contractor excellence in such areas as quality, timeliness, technical ingenuity, and cost-effective management. The amount of the award fee is a matter of subjective evaluation by the Contracting Officer (using guidelines from the DFARS and advice from the Awards Committee set up to guide the Contracting Officer in this determination). Once the Contracting Officer has determined the amount of the award fee, that decision is not subject to the Disputes Clause - the decision is not subject to contractor challenge through the appeals process. Regardless of the amount decided upon, the total fee (base fee plus award portion) to be paid to the contractor cannot exceed the statutory maximums previously referred to.

Cost-Plus-Fixed-Fee contract. The final cost-reimbursement contract type is also the least preferred - the Cost Plus Fixed Fee (CPFF) contract. The contractor, in addition to receiving reimbursement of their costs up to the ceiling, receives a negotiated fee that is fixed at the contract's inception. The fixed fee does not vary with actual cost and, for this reason, provides very little incentive for the contractor to control costs.

<u>Other contract types</u>. In addition to the fixed price and cost-reimbursement contract types, there are several other types that do not fit exactly into those neat categories. Each of these will be discussed very briefly.

Indefinite-Delivery contracts. Under the general category of "indefinite-delivery" contracts, there are three types - Definite Quantity contracts; Requirements contracts and Indefinite Quantity contracts. The Definite Quantity (ID-DQ) contract provides for delivery of a definite quantity of specific supplies or services for a fixed period, with deliveries to be scheduled at designated locations upon order. The Requirements (ID-RC) contract provides for filling all actual purchase requirements of designated government activities for specific supplies or services during a specified contract period, with deliveries to be scheduled by placing orders with the contractor. Funds are obligated by each delivery order, not by the contract itself. The Indefinite Quantity (ID-IQ) contract provides for an indefinite quantity, within stated limits, of specific supplies or services to be furnished during a fixed period, with deliveries to be scheduled by placing orders with the contractor. Funds for other than the stated minimum quantity are obligated by each delivery order, not by the contract itself.

Time-and-Material contracts and Labor-Hour contracts. Time-and-Material contracts and Labor-Hour contracts are similar in that both are for the acquiring of supplies or services on the basis of direct labor hours at specified fixed hourly rates. These hourly rates include wages, overhead, general and administrative expenses and profit. In addition, the time-and-material contract provides for the contractor being reimbursed for materials at cost, including, if appropriate, material handling costs as part of those material costs. These type contracts require very close surveillance as they provide no positive profit incentive to the contractor for cost control or labor efficiency.

Letter contract. One final contract type to be discussed is the Letter contract. These are written preliminary contractual instruments that authorize the contractor to begin immediately manufacturing supplies or performing services. They are used when the Government's interests demand that the contractor be given a binding commitment so that work can start immediately and negotiating a definitive contact is not possible in sufficient time to meet the requirement. Because of the potential cost exposure faced by the Government, there are a number of barriers or hindrances to excessive usage of these undefinitized contractual actions (UCA's).

Contract Changes

Contracts are living documents and, **as** such, can be changed to meet changed conditions. The normal course of events is that both parties to **a** contract agree to a change and to the effect of the change on the cost or scheduled delivery of the contract. There are, however, situations or occasions when the Government may unilaterally change **a** contract (that is, decide on its own). Since public monies are being spent, the Government must be given that right to change the contract - the contractor has no similar right. We will also discuss a distasteful topic in this section - unauthorized changes to a contract. These are almost always made by individuals who do not have the authority to contract for the Government and who end up agreeing to something that the government has to pay for. Such changes are frowned upon and are to be avoided at all costs!

Changes clause. The Government contracts for many diverse items and the need for these supplies or services can change over time. Wars can end, perceived threats can change, funding can vary, etc. To provide the flexibility required by the Government, the Changes clause allows the Contracting Officer to direct unilateral (one-sided) changes that must be instituted by the contractor, even though the directed changes will likely result in higher costs being incurred by the contractor, necessitating a higher price. This clause permits the Contracting Officer to order changes within the general scope of the contract. These changes can be in the specifications, the method of shipping, or in the place of delivery. Contrary to the commercial contracting arena, the contractor is not permitted to stop work on the contract until the two parties can agree on what the adjustment in price will be. The clause requires the contractor to continue to perform on the contract - as changed - but, as we will see below, assures the contractor that they will be "kept whole" because of the change (i.e. the contractor will not lose money because of the Government-directed change in the contract).

Equitable adjustment. In most instances, the unilateral changes directed by the Contracting Officer will result in changed costs on the part of the contractor, which will subsequently be reflected in changes in contract prices. The directed change will also likely impact the delivery schedule originally agreed upon. To be fair to the contractor who is directed to make the changes, the Changes clause provides for making equitable adjustments in the contract price, the delivery schedule, or both. Should there be any disagreement regarding the amount or duration of these equitable adjustments, the clause, in conjunction with the Disputes clause, opens an avenue of appeal to the contractor. The result of an appeal under the Disputes clause will be a decision by an independent agency - a court or board of contract appeals - as to the equitableness of the settlement.

Cardinal changes. The Changes clause permits the Contracting Officer to make changes within the general scope of the contract. The Supreme Court of the United States has defined "the general scope of the contract" as what should be regarded as fairly and reasonably within the contemplation of the parties when the contract was entered into. The amount of funds involved is not the sole criteria by which we - or the courts - decide whether or not a particular change was or was not within the contemplation of the parties and, consequently, is or is not within the scope of the contract. Many issues regarding "within the scope of the contract" remain to be settled by courts or boards of appeal. Regardless, any change that is determined to be outside the scope of the contract s called a "cardinal change." Another way to define "cardinal change" is a change that alters the contract to such an extent that it is a different contract from the one contemplated by the parties at the time of contract award.

Modifications. Any contract may be changed by agreement of the original parties (or successors) to the original contract. In the case of the Changes clause, the changes are made unilaterally, that is the Contracting Officer directs the change and the contractor must carry out that change. The equitable adjustment in price that will flow from a unilateral change made under the Changes clause will be a bilateral agreement - that is, both the parties to the contract must agree to the change. (The only exception to this would be if the Contracting Officer and the contractor fail to agree on an equitable adjustment in price, the Contracting Officer will render a unilateral decision regarding the price and the contractor may appeal that decision to the courts or one of the board of contract appeals.) Other changes to the contract are made by similar bilateral agreements. These are called "modifications" and serve to amend the original terms of the contract.

Unauthorized actions. The general rule guiding contractors dealing with the Government is that the Government is not legally bound by the acts of unauthorized agents. In the discussion of actual and apparent authority, it was stated that only individuals with actual authority could legally bind the Government. There are numerous instances involving contractors for the Government who did make changes in contractually-specified work based on instructions from individuals who did not have actual authority to make those changes, but would have had -in the civil arena - apparent authority. These are unauthorized actions and the Government is not legally bound to honor them. However, the Government did receive some benefit from those actions, be it more product, an improved service, etc. To avoid such “unjust enrichments,” courts have held, not under the doctrine of apparent authority, but under the concepts of *quantum meruit* (“as much as he deserved") for services and *quantum valebant* (“as much as it was worth”) for goods delivered, that the Government should pay for the service or good provided. A court or board may find that the Government is legally obligated to pay for the services or goods received but the court it self does not have the authority to sign a contract obligating the Government - only the Contracting Officer has such authority. Just so you don’t go away thinking that Contracting Officers have *carte blanche,* a contracting Officer who buys something for which he/she does not have the authority to purchase (e.g., no valid purchase request, purchase of more items than authorized) can be guilty of making an unauthorized change or procurement.

Ratification’s. Remember back in Section 12-1 when we stated that the Contracting Officer received his or her authority to contract for the Government from the Head of the Contracting Activity (HCA)? Even though the Contracting Officer was given the authority to sign a contract (or modification to an existing contract) permitting payment to a contractor found by the courts to be deserving of payment, the HCA (who gave the Contracting Officer his or her warrant) in many cases wants to approve the Contracting Officer’s signing of that contract or modification. Since the Head of the Contracting Activity (HCA) resides at Major Command or Major Subordinate Command level, the effect of the approval is to make all the acts in the case known to at least a two-star officer. (As might be expected, such instances do not serve to enhance an individuals career!) The signing - by the Contracting Officer - of the contract or modification permitting payment to a contractor who performed an unauthorized act is known as a “ratification." A Contracting Officer can only ratify an act that he/she could have authorized in the first place.

Competition in Contracting Act (CICA)

The Competition in Contracting Act (CICA) became effective 1 April 1985, exactly one year after the FAR was introduced. This act resulted from concerns by Congress that purchases being made by the Government were not **always** being made **as** competitively as they could be. There have been very **few legislative** enactment’s that have **so** significantly changed the way an agency **does its** business. CICA added one complete part to the FAR, and extensively revised several other parts.

Full and open competition. The most preferred method of contracting under CICA is the use of Full and Open Competition. By definition, full and open competition (often called simply “f and o c”) means that all responsible sources are permitted to compete. This means that any party, otherwise eligible to compete, may submit **a** bid or proposal in response to a solicitation.

No potential contractor is excluded. The widest possible competition is sought and requirements are written such that restrictive specifications are eliminated (or at least reduced).

Full and open competition after exclusion of sources. Often, it is desirable to limit competition in order to increase or maintain competition, to be in the interest of national defense in having a facility available for furnishing the supplies or services in case of a national emergency or industrial mobilization, or to be in the interest of national defense in establishing or maintaining essential engineering, research, or development capability. To achieve these ends, the Contracting Officer is permitted to exclude certain potential contractors or groups of contractors but to seek maximum competition among the potential competitors not so excluded. Perhaps the best known uses of full and open competition after exclusion of sources occurs in small business set-aside solicitations. This means that the Contracting Officer, without any further justification, is permitted to "set aside" a particular solicitation for small business participation only. The effect of this set aside is that any small business (as defined in the FAR) otherwise eligible to compete may do so but no large business may compete. Other instances where full and open competition after exclusion of sources is used are: 1) excluding a source or sources so that the competitive base may be expanded (eliminating the "gut cinch" contractor who can so successfully compete that it effectively eliminates any competitive proposals); 2) labor surplus area (high unemployment area) set asides; 3) set asides for small, disadvantaged businesses; 4) architect and engineer contracts; 5) basic research; and 6) General Service Administration (GSA) multiple award schedules.

Other than full and open competition. Due to past abuses of the practice of not getting adequate competition before making a procurement, Congress made this method of contracting one of the primary targets in the Competition in Contracting Act. To assure that there would be more competition in Government purchasing, considerable administrative hurdles were erected before the Contracting Officer can buy something using "other than full and open competition." One of the barriers that has been established is the requirement for preparing a "Justification and Approval" document. The Justification phase of the certification is the primary responsibility of the technical and requirements personnel (the individuals who want the supplies or services procured) and they must provide and certify data to support their recommendation for "going other than full and open." The certification that the technical or requirements personnel must sign certifies that any supporting data is "complete and accurate." When the Contracting Officer co-signs the Justification, their certification is "that the Justification is complete and accurate **to *the best of the contracting officer's knowledge and belief***." [emphasis supplied] Note that the Contracting Officer certification contains what can be called "wiggle words" - the contracting Officer is only certifying that the data is complete and accurate to the best of their knowledge and belief. The requirements or technical personnel are not given that latitude - they are certifying to an actuality! Lest Contracting Officers get complacent, FAR 6.301(a) does, however, go on to state that "[c]ontracting without providing for full and open competition or full and open competition after exclusion of sources is a violation of statute [the law]." Therefore, the Contracting Officer should be reasonably certain that the requirements or technical personnel are telling him or her the truth before they co-sign the Justification. After the Justification is prepared, it must be forwarded to a higher level contracting official for the Approval phase. Procurements made under "other than full and open competition" are definitely not a preferred method of contracting!

There are seven circumstances given in the Competition Act that permit other than full and open competition:

1. Only one responsible source and no other supplies or services will satisfy agency requirements. Otherwise known as "sole source," I this category of procurements, more than any other, was the impetus for the Competition in Contracting Act.

2. Unusual and compelling urgency. Emergency procurements used to make up a significant portion of "less-than-full-competition" procurements prior to CICA. What happened in these urgency situations is that a limited number (and sometimes only one) of sources were contacted and the regulations in effect prior to CICA were "loose" enough that this practice could be engaged in. Many of these "urgent requirements" were presented to the Contracting office in August and September, just prior to the end of the Fiscal Year and the expiration of some funds approved for expenditure within a particular fiscal year. A "Determination and Findings" was placed in the contract file and the requirement was procured with limited competition. The drafters of the CICA, knowing this, were very specific when the new regulation was published. The result is that another technique employed for getting around making a fully competitive procurement was closed off. FAR 6.302(c) states very clearly that "[contracting without providing for full and open competition shall not be justified on the basis of -(l) a lack of advance planning by the requiring activity or (2) concerns related to the amount of funds available (e.g., funds will expire) to the agency or activity for the acquisition of supplies or services."

3. Industrial mobilization; or engineering, developmental, or research capability. So that a source will be maintained for use in the event of a national emergency or to achieve industrial mobilization capability, use of other than full and open competition is permitted. The Justification must contain, as it always does, a description of efforts made to ensure that offers are solicited from as many potential sources as is practicable and a statement of the actions, if any the agency may take to remove or overcome any barriers to competition fore any subsequent acquisition for the supplies or services required.

4. International agreement. Many international agreements specify that the United States procure, for the foreign country specific goods or services. If the agreement so states, then use of competitive procedures is not required.

5. Authorized or required by statute. Laws sometimes require that acquisitions be made through another agency (such as Federal Prison Industries, Qualified Nonprofit Agencies for the Blind or other Severely Handicapped, Government Printing and Binding or the Small Business Administration's 8(a) program) or from a specified source (such as the required source for jeweled bearings) or if the agency's need is for a brand name commercial item for commercial resale, as in a commissary or Base Exchange.

6. National security. When the agency's needs would compromise the national security, the procurement may be made using other than full and open competition. However, this authority shall not be used merely because the purchase is for classified goods or services or because access to classified matter will be necessary to submit a proposal or to perform the contract.

7. Public interest. The final circumstance permitting other than full and open competition is to be used when none of the other authorities are applicable. Prior to using this authority, a written determination shall be made by the Secretary of Defense, the Secretary of the Army, the Secretary of the Navy, the Secretary of the Air Force, the Secretary of Transportation for the Coast Guard, or the Administrator of the National Aeronautics and Space Administration; or the head of any other executive agency. The authority to make the

written determination may not be delegated. Also, there is a requirement that Congress shall be notified in writing of such determination not less than 30 days before award of the contract. As is apparent, use of this authority requires high-level support and is not likely to be casually invoked. The remaining six authorities provide for just about every contingency and the seventh was put in to handle unforeseen situations.

Competition Advocacy

As previously mentioned, prior to 1985, the use of competition in Government procurements had declined to the point that Congress became concerned. To assure that the procurements made by the Federal Government are being made as competitively as possible, the Competition in Contracting Act provided for the establishment of Competition Advocates. The final section of this chapter deals with those individuals, their role - and, hopefully, some appreciation of the power they can exert in assuring maximum competitiveness in Government procurements.

Competition Advocates are responsible for promoting full and open competition in the acquisition of supplies and services in the procuring activity and challenging barriers to such competition, including unnecessarily detailed specifications and unnecessarily restrictive statement of need. Competition advocates exist at the agency level, at the procuring activity level, at base level and within contracting offices. To assure that the function not be a "paper tiger," the FAR specifies:

1. that the agency level and the procuring activity level competition advocates be in positions other than that of the agency senior procurement executive;

2. not be assigned any duties or responsibilities that are inconsistent with their duties; and

3. be provided with a staff or assistance (e.g. , specialists in engineering, technical operations, contract administration, financial management, supply management, and utilization of small and disadvantaged business concerns), as may be necessary to carry out their duties and responsibilities.

Conclusion

It is our sincere hope that this chapter has enlightened you to the necessity of centralizing the contracting function and has shown you some of the complexities involved. It is necessary that you - as individuals supporting a weapon system - understand ***why*** contracting personnel do what they do in a certain way. Equally critical is that you understand why they ***don't*** do certain things that you want done. Once those factors become clear, you will likely come to the conclusion that your particular discipline and contracting are necessary members of the same team and the goal of that team is to requisition, procure and manage the supplies and services necessary to accomplish the agency's mission.

What Does a Contract Administrator Need to Know About Engineering

by Andrew Ryan, CPCM

Reprinted from the "Contract Management" Magazine, July 1985, with permission.

Value engineering! At first you think "Preposterous!" You did not go to school to be an engineer. Besides, almost everyone you work with is some kind of engineer.

The last five contracts you reviewed for Terms and Conditions had one type of Value Engineering (VE) clause or another. One time you heard someone important mention the "gold in them thar hills of value engineering," so there must be unmined profit in this value engineering stuff (There is money to be earned with VE but profit is a misnomer - the term *royalty* is more descriptive.) Maybe a contracts person does need a modicum of knowledge about VE. Believe me, if **you** do not become voluntary familiar with it, someone is bound to come along-and put a value engineering change proposal (VECP) on your desk and say, "Process it!" Nothing like being caught unprepared - - -

Let's imagine a totally unreal situation. The director of contracts and your program manager walk up and hand you an inch-thick package of paper and tell you that you are relieved of all duties this week except one (that's the unreal part). You are to eat, sleep, walk and talk value engineering until you can answer the who, what, when, how, why, and where and prepare this VECP for a pricing review with senior management. In other words, put this VECP in some reasonable contractual order, on the right government forms, and cover it with a letter of transmittal to the contracting officer (CO). Your boss concludes by telling you how lucky you are because this is one change which is going to make everyone happy - even that skeptical government contracting officer. You beam, thank the boss, but remain a little suspicious. It has been your experience that the government is tight with its purse strings and forever clamoring for a "frozen" specification baseline. Why should this change proposal be better than the rest?

First you read the draft proposal which your program manager prepared. Although it is quite detailed and replete with facts, figures, diagrams, and estimates, one overriding message comes across - there exists an alternative to the current method of manufacture that will cost less, increase product efficiency, and whose end product will last *twice as* long. Fantastic! That is why this change is good and everyone will like the idea.

You need to know more if you are going to sell this great idea. Where do you start? The DAR/FAR general provisions are a good beginning: DAR 1-1700 and FAR Subpart 48.1. Those VE policy sections will then direct you to the pertinent VE clauses. The basic DAR fixed-price and cost-reimbursement supply clauses are 7-104.44 and 7.204.32 and the FAR clause is 52-248-11. Derivatives of these clauses, are used for the architect-engineer and construction contracts.

If you take note paper and start writing this is what you soon discover

What is VE?

The Department of Defense (DOD) has defined value engineering as a systematic and creative effort which analyzes the function of items or systems to ensure that vital functions are provided at the lowest possible overall cost. VE is synonymous with value analysis and value management and is aimed at finding areas of cost reduction in the contract (DAR 1-1701-1). The government implements such cost reduction methods through clauses inserted in "high ticket" government contracts (i.e., for more than $100,000). Contractors are motivated through royalty sharing provisions to submit change proposals which suggest methods of reducing costs of performance.

The VE idea must do more than reduce the costs of an end item. The basic VE clause stipulates that it must be an idea which does not ". . . impair essential functions or characteristics . . ." (FAR 52-248-1). Imagine these examples: lubricants which reduce hardware maintenance costs; usage of different alloys which strengthen hardware and prolong service life; a change in packaging methods so that the risk of damage is minimized; and simplification and streamlining of product acceptance tests. All of these could be VE ideas for selected end items.

A VECP must result in some material change to the contract specification drawings, work statement or method of production, must reduce the overall costs to the buying party, and must not impair quality or reliability. The best VECPs will enhance the end item in terms of durability, life expectancy, reliability, etc.

VE clauses naturally, come in different shapes and sizes - just like other good ideas - and the Incentive clause gets the most mileage. The clauses are placed in contracts to provide mechanisms for contractor development and submission of VECPs. Participation in VE effort under these clauses is therefore voluntary for the contractor.

The Alternative clause establishes a contract line item and pays the contractor to manage a program for a predetermined VE effort. Periodic progress reporting becomes a requirement. In this environment the contractor *must* aggressively look for cost-saving ideas.

A CO may write a VE, clause into your contract which does not allow contractor participation in collateral (agency) savings. FAR 52.248-1. Alternate III, is such a clause. The FAR rationale is if ". . . the cost of calculating and tracking collateral savings will exceed the benefits to be derived. . .," then the Alternate III deletion clause is used. This is understandable since time is money. Hours spent calculating savings to be shared might negate the reduced costs of performance.

I mentioned collateral savings and have not defined it yet. A definition of acquisition savings provides a better beginning however. Acquisition savings refers to the savings occurring directly as a result of specific acquisition actions. A VECP can net sharing of savings on the instant contract (the one the VECP is submitted under), on current contracts, and on any recurring savings which accrue on future contracts. Sharing of future savings, the product of future unit cost reduction multiplied by the future contract units, may be allowed as long as three years after the regularly scheduled delivery date of the last affected item on the instant contract. The supplemental agreement incorporating the VECP should express the negotiated sharing period.

Collateral savings are harder for a contractor to define, estimate, and price, and yet they are legitimate savings to be shared between buyer and contractor. Collateral savings are those indirect savings netted by the buyer in his own agency as a result of VECP adoption. Maybe the VECP will allow less hardware maintenance, reduce fuel consumption or other costs of operation, enhance end item life, or slow degradation. Usually the best party to identify and quantify these types of savings is the buyer. Some joint "sleeves rolled-up" working meetings may be worthwhile.

Who Uses VE?
VECPs can be submitted by both prime and subcontractors on supply or service contracts with VE clauses. A subcontractor submits a VECP through the prime contractor - due to privity of contract.

Unsolicited VECPs from third parties, i.e., other contractors, were permitted under DAR but the FAR did not retain such provisions - most likely because payment to third parties turned into a legal and bureaucratic nightmare.

When to Use
Get the clause into your $100,000 plus contracts at the time of award. If you miss the boat in the beginning, the government will usually modify the contract at no cost for inclusion of an appropriate VE clause.

Once you have the clause, allocate some time from your "management reserve" for some creative thinking. Try quality circles, brainstorming or reverse engineering. Yes, it may be an extra effort but the rewards, recognition, and goodwill that can be earned are limited only by your desires. Formal value analysis techniques have been around since World War II and are now quite refined. VE is applicable throughout contract performance and to all departments.

How to Implement
VE managers in large companies make the rounds to everyone involved in the development manufacture, and delivery of a system. The "leave no stone unturned" approach yields latent simmering, lingering ideas which may have seemed impractical before. The idea is to discover promising suggestions.

How to Submit a VECP
So you leave this great cost-saving idea on your desk. Your engineers and program manager will be excited and nervous at the same time. They want their idea documented as a VECP and submitted before someone else beats them to the royalties.

A VECP can be assembled pretty much the same way an engineering change proposal (ECP) is submitted. Read MIL-STDs 480 and 481 for the ground rules for filling out the DD1692 and 1693 forms. Answer all the questions regarding necessary specification changes: what parts of the contract will require a change, an estimate of tile implementation and development costs, and especially the overall savings. Slap on the DD 633 or SF 1411 - Government Pricing Proposal form and you will make it official - once your CO receives it.

Note, though, that the VE clauses are very specific in that the CO may require written notification before you risk significant expenditures for VECP effort. In certain situations a contractor may submit a preliminary VECP just to be on record with the idea. A more detailed submittal can follow if the buyer is interested and the prospects for winning an approval seem viable.

Calculations and Payments
After the savings are identified and the costs for implementation and development charged against them, sharing ratios are applied to the net reduced cost of performance. If the contract has large acquisition savings and little or no collateral savings, then the contract is credited for the government's share and the U.S. Treasury nets a bonus for the taxpayers.

Conversely, if the collateral savings dwarf the acquisition savings, then the contract may require additional funding for VECP definitization. The expenditure of some agency funds up front would in effect save dollars later in the overall program.

In fixed-price contracts, the contract price is adjusted for the VE royalty sharing. In cost-reimbursement contracts the contractors share of royalties is added to the contract fee. The contract modification incorporating the VECP and adjusting the contract price provides the mechanism for payment.

Future savings can be paid for either in a lump sum at the time of VECP definitization or in a series of payments during the defined sharing period. It depends on whether requirements are established at the time of VECP price and schedule definitization. Sometimes future requirements are classified by the military and therefore are not candidates for lump sum sharing.

Why VE?
Somewhere above the idea must have been communicated: royalties! Build a better mousetrap and the world will beat a path to your door.

Depending on the type of clause and the type of contract, a contractor can net from 15 percent to 50 percent of the net acquisition savings on his instant contract on concurrent contracts for the same or similar items, and on future contracts. FAR 52.248-1 has a table of sharing arrangements that is a splendid improvement over the DAR clause. The contractor can also net 20 percent of the government collateral savings (in-direct savings).

Do not shortchange yourself and include profit on the acquisition or future savings. VECPs do not require that profit be calculated in the proposed price adjustment of acquisition and future savings. The profit negotiated in the basic contract is not intended to be the subject of sharing formulae under subsequent VECP submissions. To do otherwise would inhibit contractors from submitting VECPs.

Do propose profit on the collateral savings. The theory for profit on collateral savings is that the buyer would normally pay someone else a profit or fee on the supplies or services they would sell him. Accordingly, a VECP should include provisions for sharing of such cost and fee avoidance.

Where to Send
Submit it to your CO, or if in a subcontract environment, to the prime contractor's contract manager. If your contract has a designated government contract administration office (like Defense Contract Administration Services (DCAS), be sure to send your administrative contracting officer (ACO) a copy too.

A clock starts running in the government after a VECP is received. The FAR clause requires the CO to turn around a status notification in at least 45 days. The intent of the regulations, though, is to promote decisive approvals or disapprovals during the 45 days.

If the VECP is a "winner" but the cost estimates need further review, the CO can give approval with negotiations to follow. Implementation can commence immediately with such an official approval.

Now you are the contract department's resident expert on value engineering. Get your act together and convene that pricing meeting for executive review.

Final Thoughts
Did you notice in your reading that-

- A CO's decision to accept or reject a VECP is final and not subject to appeal.

- Collateral savings are determined solely by the government and the clause stipulates that such determinations are not subject to the Disputes clause.

- The no-cost settlement approach discussed in DAR/FAR's provides an alternative to the normal sharing percentages. This method is sometimes preferred to minimize administrative costs for both parties. If the CO agrees, a split of royalties can be negotiated in which dollars are neither added nor deleted from the instant contract (hence the title "no-cost settlement"). The contractor is awarded all of the acquisition savings on the instant and *his* concurrent contracts. In return the government keeps all of the collateral and the future savings and all savings resulting from concurrent contracts placed on other sources.

The no-cost settlement approach works only with fixed-price contracts. In a cost type contract the contractor earns the VE royalty by an adjustment to the fee. Accordingly, such a VE settlement affects the dollars on the instant contract and therefore does not fall within the definition of a no-cost settlement.

- If a government contract is involved, then the contractor must identify on the DD Form 250, Material Inspection Receiving Report (for the first affected item), that a VECP has been implemented per a specific contract modification.

- VECP royalties do not constitute profit or fee within the limitations imposed for certain cost-type and architect/engineering services contracts. The collateral savings, however, are limited to the higher of $100,000 or the contract price.

Your boss was right- everyone is going to be happy with this VECP. But that doesn't surprise you, does it? The boss is always right even when he is wrong. Learned that in my First year at SHK - The School of Hard Knocks.

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CONTRACTUAL ASPECTS OF VALUE ENGINEERING

POINT - *COUNTERPOINT*

by

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and
Professor Jean S. Jines

Introduction

Value Engineering: One of the BEST Things the Government Has Going for It!

Value Engineering (VE) is a systematic process and/or technique to reduce life-cycle costs of procuring and maintaining goods or services while still preserving essential contract performance requirements. VE is incorporated into a contract through one of two Federal Acquisition Regulation (FAR) clauses. The first clause (FAR 52. 248-1) authorizes but does not mandate the use of VE and is typically used where there are detailed drawings, specifications or designs that the contractor is working to. Rather than requiring the contractor to propose VE changes, this clause attempts to incentivize the contractor to propose them. Thus, this clause is commonly referred to as the "incentive clause" or as the “VEI [incentive] clause."

The second clause (FAR 52. 248-1, Alternates I or II) is used when the government requires a specific level of effort be expended toward VE. Since the government is requiring a specific effort from the contractor, this clause is often called the "required clause," the "program requirement clause" or the "mandatory clause." This clause is used more often when the work required involves broad requirements such as might be found in a functional or performance specification. The program requirement clause alternates dictate that the contractor establish a VE program to analyze potential cost savings on the contract and establishes a separate contract line item number (CLIN) for performance and payment.

From May 1974 to August 1977, the Armed Services Procurement Regulation (ASPR) provided a mechanism for receiving unsolicited proposals for Value Engineering Change Proposals (VECPs). That language was deleted from the ASPR because of the Grismac decision (USCC Dkt 4-72, 22 CCF, para 80,252, April 22, 1976 and USCC Dkt 4-72, 23 CCF, para 81,336, May 19, 1977) with the result that contractors submitting unsolicited proposals for VECPs have no vehicle to receive payment for their efforts.

Government contractors are encouraged to make suggestions--via VECPs--that save the government money (without degrading the basic function or functions of the item or task whose cost is being reduced) and the Government will share the net savings from those suggestions with the contractor who made the recommendation. VE has been used in government contracting (primarily in the Department of Defense) since the late 1950s, but was not universally applied to all government buying activities until 1988. In January 1988, Office of Management and Budget (OMB) Circular A-131 was published, mandating that, "(Government] agencies shall establish value engineering programs [as described in Part 48 of the Federal Acquisition Regulation (FAR)] and use VE, where appropriate, to reduce nonessential costs and improve productivity." That Circular has expired pursuant to a sunset provision contained therein, and a new OMB Circular is currently being written to reduce and/or eliminate some of the language subject to broad contractual interpretation. All of this serves as evidence that there is likely to be an increase in the use of VE by all federal agencies. This issue of *TIPS* will examine various aspects of value engineering in a point-*counterpoint* format.

Two of the most common questions asked regarding VE (as described in FAR Part 48) are the following:

1. How much money does the VE program save the Department of Defense? In other words, is the payoff worth the effort and any money DOD expends on the program?
2. Once a VECP has been approved by the government and the savings have been determined, exactly how will the savings from these cost reduction proposals (VECPs) be shared between the contractor and the government?

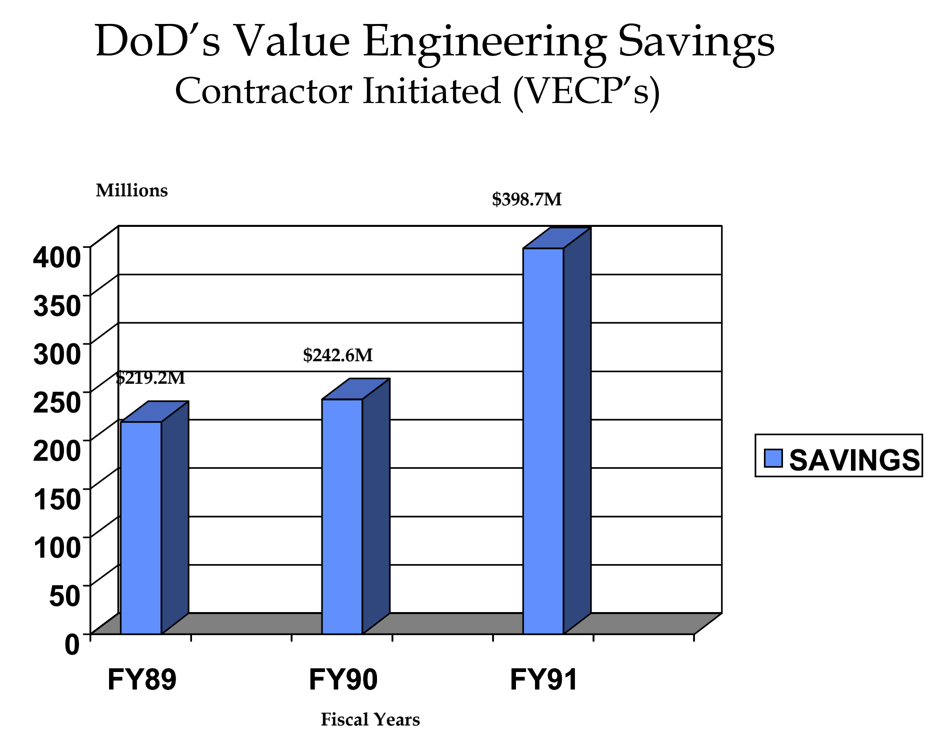

FIGURE #1

To answer the first question, see Figure 1, which shows that the DOD's share of VE savings has steadily increased from FY 1989 to FY 1991, and now amounts to $398,685,520! This figure represents money that DOD *would* have spent *above* what was necessary to accomplish the task--

and it was obtained simply (while the VE concept is simple, the application in specific situations can be somewhat complex) through a process whereby contractors either proposed alternatives to the way the DOD specified a product or service or inserted new technology as it became available. The DOD's investment cost to obtain the 1991 savings was estimated at $142,353,815, giving a Return On Investment (ROI) of 2.8:1. The ROI figures for the various services in FY 1991 ranged from 24.7:1 down to 1.49:1.

The answer to the second question is easy; the contractor's share of savings is calculated pursuant to the applicable VE clause (FAR 52. 248-1, -2 or -3). These savings, which are typically 20 to 50 percent of net VE savings, have steadily increased during the past ten years, resulting in millions of dollars of increased profits to defense contractors.

Now that we have established that VE results in significant cost savings to the government and increased profits to contractors, let us examine the basic requirements of the VE clause. The three major requirements of the clause are that (1) the VECP requires a change to the contract under which the VECP is submitted (the "Instant contract"), (2) the VECP reduces the overall cost of that contract, and (3) the essential contract-required functions or characteristics are not impaired.

While Value Engineering is not required to result in a better product or service (the only requirements are that the overall cost is reduced and that the basic function or functions are not impaired). Figure 2 clearly illustrates that--in addition to reducing the cost of government contracts--VECPs can and often do improve many other aspects of the item or system being acquired. For example, Figure 2 demonstrates that in those VECPs surveyed, over 60% resulted in enhanced reliability and maintainability, *in addition* to reducing the overall cost.

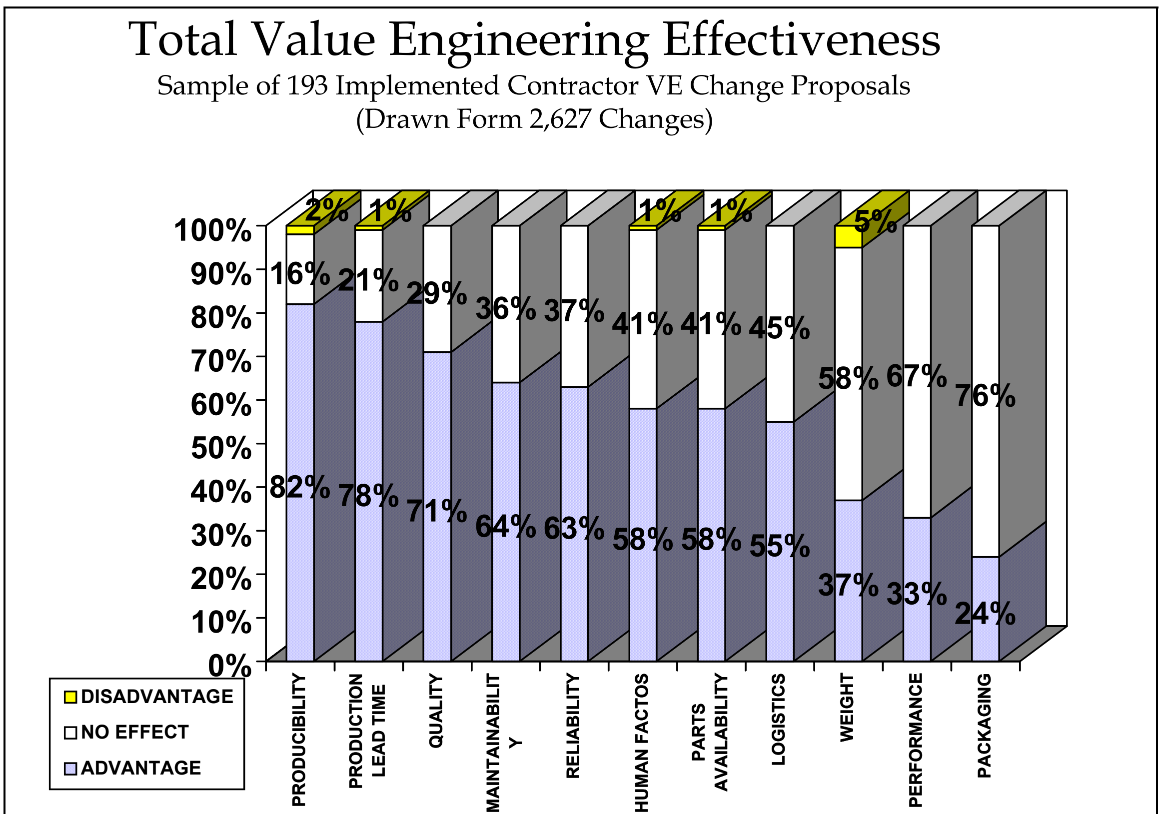

FIGURE #2

Of course, the government's VE program as described in FAR Part 48 is not without its drawbacks. There are many negative perceptions that must be overcome, many funding problems that must be addressed, and many adjustments that must be made. A discussion of these obstacles is beyond the scope of this paper. However, as a result of many of these hindrances, a number of companies no longer participate in the value engineering "game," either because their firms no longer support the expenditure of monies for VE, or the company has experienced negativity on the part of Government individuals who processed past VECP submissions and have now been conditioned to ask. "Why waste our money and time coming up with VECP's - the Government isn't really interested in accepting (or even getting) them, anyway?"

Many individuals within and outside the government do not understand the intent nor the goal of value engineering. Such individuals view it as nothing more than an unnecessary program that unjustly rewards contractors for coming up with cost reduction ideas that the government itself should create. (The thoughtful response to that argument is, "*Did* the Government come up with the cost reduction idea?")

Even with the above problems, the VE process to achieve cost reductions is an excellent way in which the government can counter reduced budgets and increase efforts to secure more goods and services while spending less money, through elimination of non-value or low-value added requirements from government contracts. Thus, VE embodies the Total Quality Management (TQM) philosophy of focusing on continuous process improvement. Referred to in the private/commercial business world as value analysis or value management, value engineering has been extremely successful for decades, in both improving the quality of products while reducing costs within commercial industry. In addition, by producing the required products or services at a lower cost, the contractor who has an active VE program certainly enhances its competitive advantage!

According to the DOD and numerous industry associations, one of the biggest obstacles to widespread, successful use of VE is a lack of understanding of the basic concepts of VE and its detailed contractual aspects as described in the Federal Acquisition Regulation (FAR) Part 48, Value Engineering. The focus of this issue is to address a few of these detailed contractual aspects of VE and to provide a point-*counterpoint* discussion of four of the more controversial portions of the FAR VE clauses.

Point One:
"No VEPR Funding for CADIC!"

An item of increasing contention between government buying offices and contractors with government contracts containing the FAR Value Engineering Program Requirement (VEPR) clause (FAR 52. 248-1 Alt. I or Alt. II) is whether or not a contractor can use government provided VEPR funds to finance its Contractor Allowable Development and Implementation Costs (CADIC) for proposed VECPs. FAR 48. 101(b)(2) states:

> The second [VE] approach (the first VE approach is the voluntary or incentive (VEI) approach in which a contractor uses its own funds to develop and implement a VECP] is a mandatory program in which the government requires and pays for a specific VE program effort. The Contractor must perform VE of the scope and level of effort required by the government's program plan and included as a separately priced item of work in the contract schedule.

Government-provided VEPR funding is to be used to finance a level-of-effort for value engineering/analysis and preparation of VE reports. The VE reports are required by the Contract Data Requirements List, DD Form 1423, included within Section J (List of Documents, Exhibits, and other Attachments) of the Uniform Contract Format, for each contract containing a VEPR clause.

Nowhere in FAR Part 48, Value Engineering, MIL-STD-1771, VEPR, nor in the VE clause does it state whether or not VEPR funding can be used to finance the CADIC on proposed VECPs. Thus, it would appear that using VEPR funding for CADIC is subject to interpretation.

However, one may justly contend that it is not, nor has it ever been the government's contractual intent to allow contractors to use VEPR funding to finance CADIC. The basis for this contention is found in the definition of Instant Contract Savings (ICS). The FAR, in 52.248-1(b)(1), states:

> Instant Contract Savings , , , are the net cost reductions on this, the instant contract, and .... are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, *less the contractors allowable development and implementation costs* [emphasis supplied].

If government-provided VEPR funding is allowed to be used to finance CADIC, and if the contractor is permitted to subtract CADIC from its proposed savings on the instant contract, then the contractor would, in fact, be double-charging the government-definitely not acceptable.

***Counterpoint* One:**
VEPR Funds May Be Used to Fund a Specific VECP!

The government provides VEPR funding to a contractor "to ensure that the contractor's VE effort is applied to areas of the contract that offer opportunities for considerable savings consistent with the functional requirements of the end item of the contract" (FAR 48.101 (b) (2)) . The historical approach f or use of this VE Program Requirement money has been just as my colleague suggests, i.e., to fund a level-of-effort for VE analysis and for preparation of VE reports required by MIL-STD-1771. However, we are entering an era where contractors that are "big players" in the VE community and that have substantial, ongoing VE programs are becoming increasingly hesitant to fund/commit the amounts of money that are necessary to develop technologically sophisticated VECPs without some assistance from the government. Funding for production buys are being drastically reduced, and there are absolutely no assurances that the quantities the contractor counted on to recoup its costs to develop and implement any VECP will be the quantities that the government actually procures. There is nothing in the FAR or supplementary regulations that *prohibits* the government from helping a contractor with a specific VECP - it's just that "we've never done it that way before. " (Ever heard that expression?)

Some of the more progressive value engineering program offices have been doing just that--providing Value Engineering Program Requirement funding to a contractor for use, along with a financial commitment on the part of the contractor, in developing a specific VECP. The government looks at this particular VEPR Contract Line Item Number (CLIN) amount as the sharing of an investment--not as government costs (thus deducting the amount from the instant contract savings to arrive at a net acquisition savings amount). On the other hand, *we do not* *allow the contractor to deduct any portion of this VEPR money as part of its CADIC, either!* To do so would indeed be permitting the contractor to "double-dip." Adequate controls must be created and utilized to assure that funds are properly segregated and that no VEPR money is counted as part of the CADIC. The contractors that are perceptive enough to ask for this sharing of risk are those that have cost accounting systems that are capable of handling such a segregation of funds.

Lastly, there is another advantage of using the VE Program Requirement money to assist the contractor in funding the development of a specific VECP. We frequently hear that many individuals in various government agencies are not committed to VE, and that the whole VE effort has a very low priority with many government personnel. The use of VEPR money is one way to assure that the program office, for example, is given a dose of commitment. It's now *our* money on the line, and we *better* pay attention to any VECP submitted as a result of our shared investment! Contractors, in turn, also benefit when the government personnel are committed to VE by receiving more timely attention to the processing of their VECPS.

Point Two:
CADIC Only Allowable on Accepted VECPs!

A common item of disagreement between the parties of many government contracts containing a VE clause is whether or not a Contractor's Allowable Development and Implementation Costs (CADIC) should be paid/reimbursed to Contractors that have submitted VECPs which have been rejected by the government. In this author's opinion, CADIC should not be paid to contractors on their rejected VECPS. The FAR 48. 101(b) (1) states clearly that, " . . . [t]he contract provides for sharing of savings and for payment of the Contractor Is allowable development and implementation costs *only if a VECP is accepted.*"

The government I s position (that CADIC is only to be allowed on accepted VECPS) is both fair and reasonable. Contractors must realize that VE is not a completely risk-free venture, and that not all VECPs submitted by contractors will be accepted by the government. However, it should be noted that during the past three years, the Department of Defense buying activities have accepted between 51 and 69 percent of the VECPs submitted by defense contractors, according to Headquarters DOD VE statistics. The annual rate of acceptance varies depending upon the quality, suitability, and other factors of the VECPs submitted by defense contractors.

Counterpoint Two:
Contractors Should Be Permitted to Recover Development Costs on Rejected VECPs!

One of the more contentious issues in the contracting community over the past decade has been the question of whether the contractor should be permitted to recover its development costs for a VECP if that VECP is rejected by the government. (Of course, if the VECP is rejected, there will be no "implementation" costs involved.) It appears as if some resolution to this issue is at hand and we will now use this counterpoint to discuss one of the current/pending VE changes.

FAR Case 89-010 initially proposed that the contractor be permitted to recover--under the contract the VECP was submitted against--its development and implementation costs for an accepted VECP. This is no different from the present reading. However, it further stated,

> If a VECP is not accepted, the development costs are not charged [again, no implementation costs on a rejected VECP] directly to the contract, but may be charged indirectly if otherwise allowable in accordance with 31.201.1.

This proposed change to the FAR was scheduled to be published in the *Federal Register*- in May of 1991. Immediately prior to its scheduled publication, there was a *personal* objection made by the Director of the Defense Contract Audit Agency (DCAA), who felt the proposed rule violated Cost Accounting Standard (CAS) 402 (basically, the rule treated a single type of cost differently in different situations). The proposed publication was withdrawn. Since that time, new language has been drafted that is apparently agreeable to DCAA. The new change to the FAR states, in the last sentence of paragraph 48. 101(b)(1). "The development costs for accepted and unaccepted VECPs shall be accumulated by VE project and charged indirectly if otherwise allowable in accordance with FAR Part 31.201-2."

This proposed new FAR language does not address the proposition that VECPs are a risk venture and that contractors must be willing to put their own funds on the line to develop VECPS. However, it does recognize that contractors have wanted the Government to share some of those risks and are apparently going to be successful in having the FAR changed to permit that. If we're talking about a contractor spending a relatively small amount of their own funds to, say, locate a second source that will provide an item at less overall cost than a Government-specified source, then clearly the contractor should take that financial risk and absorb it from profit. on the other hand, if we're talking about a contractor spending hundreds of thousands of dollars to develop something that is technologically risky--but that could have a significant ROI to both the government and to the contractor--then the contractor might ask the government to share some of that risk and permit it to recover those development costs if the VECP is rejected.

Some may argue that the contractor will simply start generating garbage VECPs on purpose, knowing that the government will reject such proposals, but permitting the contractor to keep its engineering staff employed. If the costs in this scenario were permitted to be charged against that specific contract, then there may be some validity to that contention. However, when one realizes how closely the government scrutinizes a contractor's overhead (where those development costs on the rejected VECPs would be charged), then it can be seen that the contractors will continue to work on apparently-viable VECPs and continue to put the garbage VECPs out with the rest of the trash.

Point Three:
Government Recoupment of VE (Lump-Sum) Payments on Future Contracts?

The question is, can the government recover some or all of its payments to contractors, for the contractor's share of future contract savings paid on a lump-sum basis, after the payment has been made? The VE clause appears to present a dichotomy of choices to the parties, pursuant to FAR 52. 248-1(g)(4) and FAR 52.248-l(i)(4). The FAR 52. 248-1(g)(4) states, "If the government does not receive and accept all items on which it paid the contractor's share, the contractor shall reimburse the government for the proportionate share of these payments." However, FAR 52. *248-1*(i)(4) states:

> When the government wishes and the contractor agrees, the contractor's share of future contract savings may be paid in a single lump-sum, rather than in a series of payments

over time.... The contractor's share shall be included in a modification to this contract and shall not be subject to subsequent adjustment.

One may contend that paragraph (g) (4) of the VE clause clearly provides the basis for exceptions to the general rule of nonadjustment to the contractor's share of savings, expressed in paragraph (i) (4) of the VE clause. It is ridiculous to assume that the government should be prevented from recouping a contractor's share of savings on items that the government does not receive and accept.

Counterpoint Three: No Government Recoupment of VE (Lump-sum) Payments on Future Contracts (Or, Once You Agree on a Figure, That's It, Partner!)

My colleague feels that FAR 52. 248-1(g)(4) gives the government a *unilateral* right to take back future contract savings that were paid to a contractor under the "Lump-sum Settlement" method. To refute that contention will take a little more space than the other counterpoints, as we need to review how certain savings shares are to be paid before we can address the core issue.

First, let's discuss how each of the Acquisition savings are paid. It is necessary to go to Subsection 48. 104-1 of the FAR to see how the Regulations tell us to pay the Contractor. Instant savings are covered in Subparagraph (a) (2) (i). That Subparagraph is not precisely definitive but it does say that "the Contractor's share of new (should read "net" - a correction has been submitted to the FAR Secretariat] acquisition savings is calculated and paid each time such savings are realized. This may occur once, several times, or, in rare cases, not at all." The intent of the payment method is that the Contractor is paid its share as items are delivered against the Schedule of the Instant contract. The Contractor invoices for its share of net acquisition savings on each item covered by the DD 250 accepting the goods or services on the Instant contract.

FAR Subparagraph 48. 104-1(5) says that within three months after concurrent contracts have been modified to reflect price reductions attributable to use of the VECP, the contracting officer shall modify the instant contract to provide the contractor's share of savings. (It should be noted here that the Instant contract holder is entitled to a share of price (not cost) savings on all affected units on Concurrent contracts, *without regard to share period end points.*)

Future contract savings shares are covered in FAR 48. 104-1(6), which reiterates that the contractor's share may be paid as subsequent contracts are awarded or in a lump-sum payment at the time the VECP is accepted. If the contractor is not being paid using the lump-sum method, the regulation says that the "contracting officer ordinarily shall make calculations as future contracts are awarded and, within 3 months after award, modify the instant contract to provide the contractor I s share of the savings." (Some Contracting offices have opted to pay the Instant contract holder as items are *delivered* - within the share period - on Future contracts. While not expressly permitted by the FAR, this method is not precluded either.)

Note that Concurrent and Future savings shares paid in accordance with FAR 48. 104-1(5) and (6) are paid in what may be called a "mini-lump sum" - i.e., the Instant contract holder is paid as contracts are modified to cover items all items scheduled for delivery on the entire Concurrent contract(s) or as Future contracts (paid on the "royalty basis") are awarded, with payment based on those items scheduled for delivery during the sharing period. In either case, the government will have paid the contractor based on the *anticipation* of satisfactory deliveries of acceptable goods or services. These two methods of paying contractors their VE share are what I feel subparagraph (g)(4) is addressing. The reader may now ask why I feel that the subparagraph is *not* referring to lump-sum payments of future savings.

First, a literal reading of the Clause says that Lump-sum settlements will *not* be adjusted once agreed upon. That statement is made twice in the basic Value Engineering clause. As my mentor, Howie Pryor, often said, "I invite you to be extremely *literal* in reading the Clause - save your liberality for interpretation where the Clause is not specific."

Further, all the caveats in FAR Part 48. 104-1(6) (i thru iii) caution the contracting officer to carefully consider possible future impacts before agreeing to use the more convenient lump-sum method. (To paraphrase Yogi Berra, "The contracting officer must be very careful about making predictions - especially about the future!")

As far as court precedence is concerned, there is only one case that addresses this issue - and it doesn't *directly* address it. Let me explain. The Sayco, Ltd, case (ASBCA No, 36534, 89-1 BCAT para 21,319) dealt with a contractor who accepted the Government's offer of a lump-sum settlement based on the PCO's estimate of 21,000 sonar stuffing tubes to be procured on Future contracts during the sharing period. Remember, the lump-sum savings are based on "the contracting officer's forecast of the number of units that will be delivered during the sharing period." (FAR 52. *248-1*(i)(4)) When the Government subsequently bought 31,250 tubes on future contracts. Sayco filed a claim for its share of savings on the difference between the quantity upon which it accepted the lump-sum settlement (21,000 tubes) and what the Government subsequently bought (31,250 tubes). The basis for the claim was that "when the value engineering agreement was signed, the contracting officer had reason to know that a great many more of the items would be ordered than the estimate supplied to the contractor as a basis for negotiating the lump-sum payments' Because of the Government's lack of care and even misrepresentation in calculating the amount, the Board decided in favor of Sayco. The decision contained some significant words: "Regardless of whether the number of units actually delivered during the sharing period was greater or less than the contracting officer's forecast, such an adjustment would be barred by the last sentence of subparagraph (f) (4) b [DAR 7. 104-44 (f) (4) b - essentially the same wording as the current FAR clause]." According to the decision, the clause would have barred any adjustment had there simply been a difference between what the Government and the contractor agreed to and what was subsequently purchased.

So, why do I say that the decision somewhat addresses the issue under consideration but doesn't exactly? The decision was based on an *increase* in quantity and not a decrease. Although the wording used in the decision certainly leads one to conclude that the judge's decision would have been the same regardless of the direction of adjustment (either upward or downward), the decision does not *directly* address the question as to whether a downward adjustment in the basis for the lump-sum settlement would call for the contractor to return a proportionate share. That means that further journeys into the intent of the Clause - and the entire Government VE effort -are necessary.

Subparagraph 52.248-1(i)(4) lays the groundwork for the mutuality of the lump-sum settlement - "When the Government wishes and the contractor agrees,.........” Neither party can *force* a lump-sum settlement. In addition, Part 48.104-1(6) has several caveats to the contracting officer to make sure that the lump-sum settlement is entered into knowledgeably.

Finally, since there is no clear direction from the clause regarding any reimbursement to the Government for undelivered or unacceptable items, there is *always* a safe course to follow in interpreting the Value Engineering clause--an interpretation in favor of the contractor. Howie's conviction regarding liberality was based on more than his own biases - there are a number of Board rulings in which the judicial body felt that a liberal interpretation is called for as being in the spirit of Value Engineering (Airmotive Engineering Corporation, ASBCA No, 17139, 74-1 BCA, para 10,517; Syro Steel Co, ASBCA No, 12530, 69-2 BCA, para 8,046; Philco-Ford Corp, ASBCA 16197, 73-1 BCA, para 9,917).

So, does subparagraph 52.248-1(g) (4) require the contractor to reimburse the Government for undelivered or unacceptable items for which the Government paid the contractor for using a lump-sum share? While there is no overwhelming, compelling argument that says the Government *has* such a right, the totality of the pieces of arguments *against* such a unilateral right seem to indicate that once a lump-sum settlement is agreed to, that amount is not subject to subsequent readjustment (unless, of course, there is a material misrepresentation, either intentional or negligent, on the part of the contracting officer). I cannot conceive of anything in the Value Engineering clause that is written in favor of one party to the detriment of the other - including a benefit given to the Government without a similar, offsetting benefit being provided the contractor. The entire intent of the Value Engineering effort on the part of the Government is based on a win-win cornerstone.

Point Four:
Contractors Share of Collateral Savings: How Much Is Enough?

When examining life cycle costs associated with the acquisition of major systems and non-major systems, the largest single element of cost is generally considered to be Operation and Maintenance (O&M) costs. As defined in the VE clause at FAR 52. 248-1(b), collateral costs are considered to be "agency cost of operation, maintenance, logistics support or government-furnished property. " Thus, as defined in the FAR VE clause, paragraph (b), collateral savings are "those measurable net reductions resulting from a VECP in the *agency's overall projected collateral costs* . . . . ." [emphasis added].

Through the VE clause, the government provides the contractor with the opportunity to realize a share of O&M reductions/collateral savings not only on items affected on the instant contract, but also on all other so affected items within the agency. A contractor's share of collateral savings, pursuant to paragraph (j) of the VE clause, is "..... 20 percent of any projected collateral savings determined to be realized in a typical year of use....."

Some contractors believe that the government should revise the VE clause to provide them a larger percentage of collateral savings and/or a share of collateral savings from more than a typical year of use. However, the current requirements are both fair and reasonable for three reasons. First, there is a great potential for reduction in O&M costs as a result of successful VECPS, especially so for major systems. Second, the government retains a significant liability to fund the contractor's share of projected collateral savings. In other words, with respect to VE collateral savings, the government is required to pay a contractor up-front, and to reduce the government O&M costs later. Third, estimating projected collateral savings/future O&M cost reductions is a very speculative proposition, and the accuracy of negotiated estimates is questionable at best.

Counterpoint Four:
Contractor's Share of Collateral Savings--
More May Be Called For!

There are more than enough problems involving collateral savings without surfacing *another* issue but, here goes. Before discussing that new issue, let's enumerate some of the enigmas that I perceive in the Clause itself and in Part 48. First, FAR 48. 104-2(b) says that the "contractor's share of collateral savings is 20 percent of the estimated savings to be realized during an *average* year of use.... (emphasis supplied]." while FAR 52. 248-1(j) says that the contractor's 20% savings share is to be based on "projected collateral savings determined to be realized in a *typical* year of use . . . . [again, emphasis supplied]. " While the contracting officer has to be guided by what is in the contract Clause. Part 48 can sometimes help in decision making. In this case, the information in Part 48 actually introduces perturbations. For example, which "average," or measure of central tendency is intended - mean, median or mode? If one of these characteristics of distribution is to be used, how is it to be determined? How far into the future is the contracting officer to project agency savings (goes significantly beyond the "contracting office" used as the sharing base elsewhere in the Clause) and any offsetting costs to be considered to have exercised due diligence in determining what those savings are? What methods should be used to estimate cost *avoidances* in the collateral area that are the result of an accepted VECP? All these factors, plus others, lead one to conclude, as does my colleague, that "estimating projected collateral savings/future O&M cost reductions is a very speculative proposition and the accuracy of negotiated estimates is questionable at best. " They are also the principal reason the decision of the contracting officer is final and is not subject to the Disputes clause or otherwise subject to litigation under 41 U.S.C. 601-613.

Now that we've determined that collateral savings are the source of considerable headaches, let's see if a case can be made for giving the contractor more than the Clause calls for. IF (a very large "if"), if, collateral savings could be defined with any degree of accuracy, it is apparent that a contractor who is incentivized by an up-to-50% share of *all* Acquisition savings resulting from an accepted VECP would experience something less than full motivation when told he or she is entitled to only a *20%* share of collateral savings - and that only for *one* of the years of identified savings. To be able to identify which year is "typical," some effort has to be made to determine the total collateral savings for as many years as is reasonable and prudent. It is likely the Government may identify collateral savings on some VECP's for 10 or more years. Granted, some of these numbers are speculative but realize also. that, according to subparagraph (j) of FAR 52. 248-1, the contractor is only entitled to *20%* of *one* of those years. One begins to see why the current Clause frequently fails to motivate the contractor in the collateral area.

If the majority of the savings are in the acquisition area (instant, concurrent and future savings), then the contractor doesn't require a lot of motivation from the collateral area. That argument holds true if that is, in fact, the situation. However, with the increased emphasis on reliability and maintainability issues (e.g., R&M 2000), we have found that it frequently costs *more* to procure an item that will give the Government the desired increased reliability and easier (read: "less expensive") maintainability. That means that a VECP that has at its heart improvements in reliability and maintainability will often result in *Negative* acquisition savings (the contractor *will* recoup its development and implementation costs, however) and the only savings in which the contractor will share will be collateral savings. In that instance, the contractor is clearly entitled to a greater share than that called for in the Clause if the firm is to be motivated to invest its *own* funds to develop the VECP.

Even if there are acquisition savings in which the contractor can share, the amount of collateral savings share is considered by many contractors to be less than adequate to compensate them for the risks they incur in developing VECP's - particularly when compared to the amount of collateral savings retained by the Government.

How should the Clause be modified? That should be left to the contracting officer and be situation-dependent. What can be done is to permit the contracting officer freedom to negotiate between the current levels and to go up to, say, a 50% share of one year's savings (and provide the contracting officer more guidance as to how that year's savings is to be determined). or to give a 20% share of three to five year's savings. This will allow the contracting officer to deviate from the currently-mandated contractor saving share if he or she feels that the identified savings are more definite than they sometimes are. If the collateral savings are somewhat "iffy," then the contracting officer can opt for a lesser amount as being appropriate. In many instances, if the collateral savings estimates are pretty flaky, even the "20% of any projected collateral savings determined to be realized in a typical year of use" would be the most apropos. On the other hand, lest the contracting community feel that all Value Engineering decisions go in the Government's favor, one Government agency is now actively proposing to increase the contractor Is share of collateral savings to 100% of one year's savings!

Current/Pending VE Changes

The most significant change to the VE FAR clause is that discussed in *Counterpoint* Two. The allowability of development costs on rejected VECP's has long been something not only contractors have pushed, lobbied, railed and cajoled for but the Value Engineering practitioners within the Government have been equally as vocal in desiring the change. Many of us recognize the extent of risk that is inherent in some of the more complex VECP's and the amount of money that must be expended just to get a product to the point where the Government can make a knowledgeable decision to accept or reject.

There are a number of teams currently meeting to address some of the problems with the VE effort of the government. It is intrinsic to VE that if a problem exists, it is a *mutual* problem--one that negatively impacts both the government and the contracting community (remember win-win" can turn to "*not* win-*not* win" if there are difficulties). Recall from figure 1. in the Introduction, that the dollar value of DOD's share of VECPs has been significantly increasing. However, figure 3 illustrates that during the same period, the number of VECPs received dropped significantly. Many of the dollar savings reported were "carried over" from previous years' submissions and the declining number of VECPs will eventually result in a decline in dollars of savings in a few years. That is one of the major concerns of both government and industry observers.

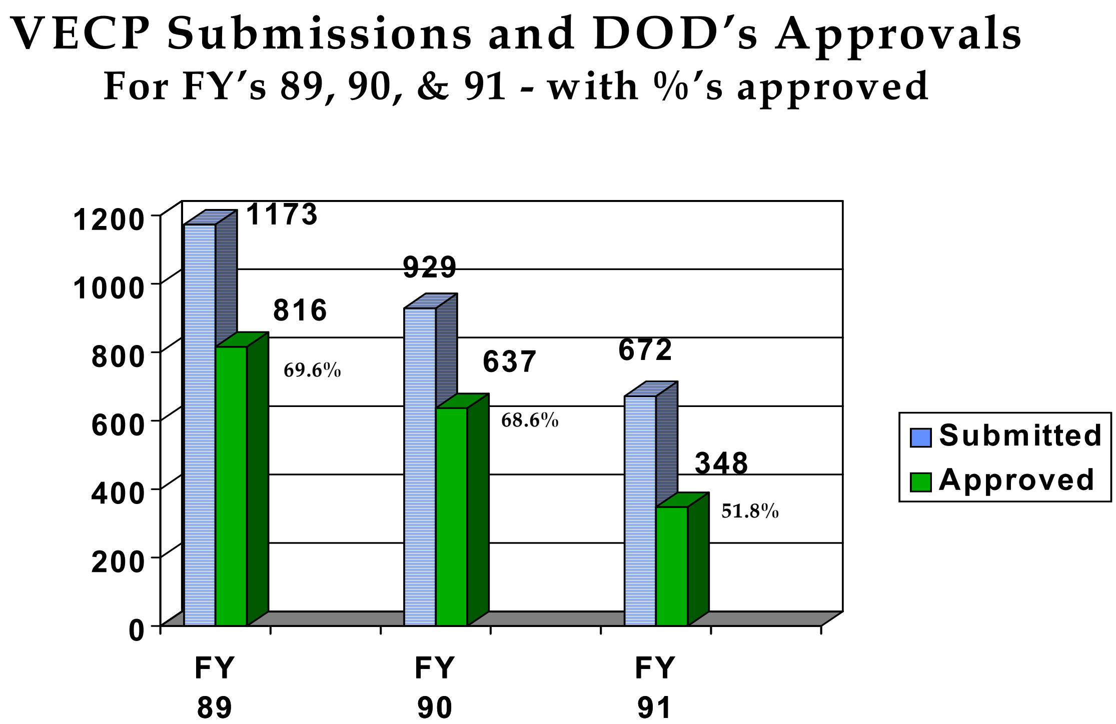

FIGURE #3

The Aeronautical Systems Center of the Air Force Material Command (formerly Aeronautical Systems Division of the Air Force Systems Command) has an active Critical Process Team (CPT) that has been meeting since May 1991 with the primary goal of improving the ASC VE process . The Army Materiel Command (AMC) has a similar VE Process Action Team (PAT) looking at changes (some to the FAR):

- to reduce Operations and Support costs,
- to make changes to the collateral sharing base and amount,
- to legitimize the use of preliminary VECPS,
- to permit the use of a modified expanded sharing base (which expansion was removed from the FAR in the March 1989 revision),
- to increase the number of VECP submittals from contractors by evidence of top-level government support,
- to increase the incentive for subcontractor participation (where 60 to 70 percent of all prime contract dollars are spent!),
- as well as several other changes.

The U.S. Navy has also involved contractors in its PATs to improve the processing and understanding of VECPS.

From the contractor side, efforts are being made by the Value Management Group of the Electronics Industry Association

- to reduce VE processing time,
- to aid subcontractor participation,

- to encourage the use of VE Program Requirement clauses, and
- to provide guidance on how to "sell" VE to both government program managers and top-level corporate management.

Both the government and the contractor efforts recognize that VE is a benefit to both parties, and that the problems are likewise of a mutual nature. Cooperatively, government and industry are working to make VE the force it can be in both the government's budget reduction and TQM efforts and in industry's focus on continuous improvement.

Conclusion

This article has provided an introduction to the concept of Value Engineering as described in FAR Part 48, Value Engineering. It served as a Point-*Counterpoint* discussion of four of the more controversial aspects of the FAR VE clauses, and as a brief review of some of the current/pending VE changes.

If, as a result of these discussions, you are interested in learning more about value engineering, then we have achieved one of our principal objectives, i.e., to motivate people to increase their awareness of the contractual aspects of VE. When examining the FAR VE clauses often, you will find that the more you learn, the more questions you will have, as a result of the numerous items subject to interpretations and/or litigation. But, remember that the basic premise of VE is to create a win/win situation--reduced costs and often better products for the government, and increased profits for industry. Clearly, VE is a proven technique to decrease costs on government contracts. Given our current budget reduction environment, value engineering should receive more emphasis by the government and industry, not less.

NOTE: The authors are the recipients of both the DOD Honorary Value Engineering Achievement Award for FY 1991 (Professional Team Category) and the Air University DOD Value Engineering Achievement Award for 1991. Both these awards were made in recognition of their outstanding teaching and consulting efforts in value engineering. They have also received the FY 1991 Honorary Value Engineering Achievement Award (Professional Team Category) by the US Army Materiel Command for the same reasons.

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ONELINERS

Compiled by Howie Pryor

1. Protest denied where successful bidder submitted VECP 3 days after contract award. Protester alleged that competition was for work different than that proposed by the successful bidder. (COMPUDYNE)

2. Protest denied where apparent low bid was rejected after determination that bid was contingent upon a "VECP" acceptance. The apparent low bid was determined to be nonresponsive. (JOANELL)

3. Appeal sustained where VECP identification was documented by file; multiple acceptance of a single idea found compatible with DoD policy. (COVINGTON)

4. Appeal sustained where Government prior knowledge of idea did not bar contractor sharing; use of idea in contract found to have resulted from VECP. (SYRO)

5. Protest denied where VECP had never been accepted; where contractor did not use "legend"; and where future sharing had been omitted from clause in accordance with Regulations. (APEX)

6. Appeal sustained where constructive acceptance of the VECP had taken place; KO had never issued a written determination. (NORTH AMERICAN ROCKWELL)

7. Appeal sustained where separate and independent analysis by Government, paralleling the VECP, did not forestall contractor sharing. (THOMPSON)

8. Appeal upheld when Government attempted to repudiate KO actions, accepting VECP's; authorizing shares. Extremely large size of contractor share no reason for Government to contest results. (AIRMOTIVE)

9. Appeal sustained where KO attempted to include profit in the instant savings amount to be shared. Engineering Board agreed with the KO but the Court reversed the Board. (DRAVO)

10. Appeal sustained. "Primacy of positive action is the <u>sine</u> <u>qua</u> <u>non</u> of a valid VECP. (XEROX)

11. Contract Adjustment Board allowed VE royalty share even though the follow-on contract had expressly disallowed it. (THIOKOL)

12. Appeal upheld where Government tried to avoid sharing on the basis that quantifying the savings would be difficult for spares portion of the contract; spares had not been as yet selected. (PHILCO FORD)

13. Appeal denied when contractor claimed it was unreasonable to expect him to read the entire contract with such care as to perceive that collateral savings sharing had been properly omitted from the clause in the contract. (LESTER LAWSON)

14. Appeal denied where contractor attempted to use G. L. Christian as precedent to read VE clause into contract when it had been omitted in strict compliance with the Regulations. (AL *JOHNSON)*

15. Appeal denied when it was held that Government had revised follow-on contract delivery schedule in order to avoid a default rather than to diminish instant contractor's future share. (ANTAYA)

16. Appeal denied where instant contractor claimed future savings share as though Government had used the idea in a follow-on contract even when the Government had not. (TURCO)

17. Court of Claims determined that payment for an unsolicited cost reduction proposal would be improper since statutes did not authorize payment for "mere suggestions." (GRISMAC)

18. Appeal sustained where Government alleged that the VECP had been prompted by project office request; Board did not agree. (MCDONNELL DOUGLAS)

19. Protest denied when company submitted an unsolicited proposal recommending a procurement method change. Grismac cited as precedent. (G. K. S.)

20. Appeal denied where contractor attempted to submit a VECP under a VE clause that had inadvertently been included in the contract. Board held that use of the clause was invalid and unenforceable. (BESELER)

21. Appeal denied when contractor attempted to assert a collateral share. KO had carelessly authorized the contractor to appeal collateral decision but Board agreed with Government that collateral savings were zero. (WHITTAKER)

22, ASBCA did not feel compelled to follow GRISMAC precedent in matter involving unsolicited sharing for a submittal made during 39 months half-life of 1-1708. (ALAN SCOTT)

23. Appeal sustained contractor claim for instant share from a VECP that corrected a Government error but was not a sophisticated solution to a complicated engineering problem. (CARDAN)

WHOSE IDEA WAS IT ANY WAY?

Captain Eugene J. Pickarz, Jr., USAF

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In these days of defense spending cuts, program cancellations, and total quality management (TQM), there is a continual search within the acquisition community to find ways to maximize cost savings. ironically, one of the best methods has been around for more than two decades. That is value engineering. More often than not, the value engineering program is under-utilized because those in the best position to capitalize on it simply don't "know the rules." This article will shed some light on a crucial issue, idea ownership as it relates to the value engineering program.

The Federal Acquisition Regulation (FAR) provides for two value engineering (VE) approaches.

The first is an incentive approach in which contractor participation is voluntary and the contractor uses its own resources to develop and submit any value engineering change proposals (VECPs).[1]

The second approach is a mandatory program in which the government requires and pays for a specific VE effort.[2] It is the first approach, the incentive program, on which this article focuses.

Using the VE-incentive program, a contractor is rewarded for cost saving ideas by providing it a share of those savings. But, the government can initiate cost-saving ideas via a value engineering proposal (VEP) by directing the contractor to study and, if found cost effective, to direct a contractual change incorporating the "better way" to perform the contract In this second instance, the government gets 100 percent of the cost savings and the contractor is not entitled to a share thereof. The reason is simple; the government had the idea first.

Herein lies the key issue of this article and case; namely, do the originators of a VE idea always get the proper savings share and recognition due them? This article shall present the case that merely having a VE idea does not automatically establish the ownership rights of that idea, unless positive action is taken by the originator.

Date of Title and Ownership

Establishing the date of title and ownership of a VE idea is of paramount importance for later actions of either approval or disapproval of a VECP. This is because the actions of the government can "constructively accept" a VECP, prior to formal acceptance or disapproval of the VECP. In other words, if the contractor, by its actions, clearly establishes its intent to submit a VECP (and subsequently does so), and the government later "constructively accepts" the VE idea by its actions, the government will be stopped from later claiming the idea was not the contractor's. disapproving the VECP, and refusing to share the savings it has reaped from incorporating the VECP.

The key here is "action" on the part of the originator of the idea. Even if the government "plants the seed" for a VE change idea, it will be unsuccessful in later claiming the idea as its own (after the contractor establishes ownership via a VECP submittal), unless it takes the action to initiate the VE change. To illustrate this confusing concept a "real world" example is helpful.

Negotiations between the government and an airframe contractor were under-way in June 1987 for a major aircraft buy involving several end-users. As is usually the case on acquisitions for complex aircraft systems, myriad configuration changes were in various stages of review and had to be "nailed down" to baseline the aircraft configurations and complete negotiations.

During the configuration specification review process, the government contracting officer (CO) requested and later received review comments of the contractor's configuration baseline specification from the program office. Said review clearly requested a deletion of several components which were no longer desired by the end-users. (Note: It was determined that this would not constitute a "reduction in deliverable end-item quantities only," as defined by the FAR.) In the weeks that passed subsequent to the request for deletion of items and completion of negotiations in August 1987, no formal action was taken on the part of the government to notify the contractor in writing to remove components from the aircraft specifications. As a result, the aircraft specifications at time of contract award contained the undesired components.

Stop Work Order

In October, the contractor notified the buying activity that it was pursuing a VE study to delete certain components on the aircraft for which it just signed a contract to produce. The components were, oddly enough, those that were the subject of previous program office internal discussions. Only 3 months after the contractor's study notification, the government issued a Stop Work Order for the components in question in January 1988. The Stop Work Order requested the contractor to "submit any impacts of the cancellation/termination."

The contractor responded to the Stop Work Order request for "inputs" with a VECP for the requested deletions of componentry in December 1988. It is important to note that this VECP was the result of the study initiated by the contractor earlier but was the first instance where the contractor formally solicited an approval or disapproval of the VECP "idea," yet all previous contractor correspondence referencing the change had inferred a VECP was forthcoming.

In March 1989, the configuration control board in the program office disapproved the VECP based largely on recommendations of program off ice engineering personnel that deletions were, in fact, the program office's idea and not the contractor's. The contractor responded to the disapproval with a further reiteration of its request for approval of the VECP stating it did, in fact, meet all requirements of the value engineering clause of the subject contract.

The Commanding Officer, with the advice of legal counsel, then made the painful decision (with concurrence of the program office), to approve the VECP. While this may appear to be a poor decision at first, since the government in all probability "had the idea to delete the componentry first," one must look carefully to the facts and case law and conclude there was no other choice. Let's look at three major factors that led to the decision.

Disputes Clause

The first factor to consider is that although a contracting officer's decision rejecting a value engineering incentive (VEI) proposal is final and not subject to the disputes clause, once a contractor's VEI proposal has been accepted, a contracting officer's rejection of the contractor's claim for the benefits provided by the VEI clause is subject to the disputes clause.[3]

In the case discussed herein, the VECP was, in fact, "constructively accepted" via the Stop Work Order which incorporated the configuration changes resulting from the deleted componentry. Since the government had reaped the benefits of incorporating the technical change, it was effectively estopped from disapproving the VECP for those changes. The message is clear: If you want to disapprove a VECP, you cannot later, or previously, incorporate the change that it proposes.

The second factor the Commanding Officer grappled with was just who had the idea first. Internal program office documents clearly indicated the end-user: didn't want the components. Further review of specification documents found that the components were part of the specifications both before *and after* the negotiations of the contract for the additional aircraft.

Lastly, no documentation requiring deletions for the components could be found which had been forwarded to the contractor prior to their letter of intent to study the proposed deletions. The bottom-line was that the contractor had taken the initiative and action to propose the change even though the government initiated the idea. The Board of Contract Appeals has made it clear that it is the party acting upon the idea who ultimately gets credit for the same. As one such decision put it, priority of conception without the flesh of positive action is a meaningless exercise in the world of VECP.[4] A VECP may thus be based on a government idea previously conceived but not affirmatively implemented prior to receipt of a VECP based on the idea.[5]

Board of Contract Appraisals

In the aircraft component case described previously, the first “Positive act" (on the part of the government) between the parties was issuance of the Stop Work Order. But, the order was issued subsequent to the contractor's notification of a forthcoming VECP. In the Commanding Officer's mind, the contractor took the first positive action to get the "government’s attention" via the letter of intent to study the VE idea. Simply because the government was forced to act by the contractor's letter is not reason enough to deny the contractor a share of the savings due them. The Board of Contract Appeals made this point clear when it stated:

> Interpreting the clause to permit the government to hold out the offer of reward to induce contractor's cost reduction proposals but escape sharing the resultant savings on the basis that it thought of the idea first, although not enough to use it until induced to do so by contractor action, would serve neither justice nor the policy intended by the (value engineering) clause.[6]

If the previous two arguments in favor of the contractor weren't enough, the "clincher" is the well-established fact that, when in doubt, the VEI clause is always interpreted in favor of the contractor.

The courts and boards have consistently stressed that VEI provisions should be construed in favor of the contractor. In a landmark case on this very issue, the Armed Services Board stated:

> If any underlying philosophy may be said to run through the various decisions of the Board and the Court of Claims in the field of value engineering rewards, it is that the provisions of the Value Engineering Incentive Clause are to be liberally interpreted in favor of the contractor. As frequently explained in other opinions, this. attitude represents merely a practical approach to derive maximum benefit for the Government from the value engineering program generally. If the sharing provisions were to be interpreted and administered strictly with an eye to holding down rewards, the incentive to propose or urge adoption of money-saving devices and procedures would, for practical purposes, be eliminated, the flow of suggestions would dry up, and the program would die. [7]

If a senseless requirement makes its way into a contract, the government should thus reward the contractor for bringing it to its attention rather than condemn it for attempting to get its “unfair share." Nevertheless, the VEI provision and its "clarifying" language of FAR Part 48 is not the easiest guidance to interpret. Open-minded management of the VE program is thus not only desirable but imperative.

Three Lessons

In summary, there are three lessons to be learned from our aforementioned case of the "costly components." The first may seem obvious but, nevertheless, is often ignored; namely, *know what* you are buying. The VECPs to delete unnecessary items which the government already knew about, while in all probability are valid VECPs, nevertheless are almost always the subject of controversy. Even if approved after long ensuing battles among contractual parties, they leave a bitter taste in the mouths of some who are not easy converts to the VE mindset.

The second lesson is that whoever has a potential VE idea should establish the right to that idea early on. In other words, *take action. Not* only do suppressed ideas create later confusion if another claims the idea as one's own, but VE savings can rapidly diminish over time if not implemented in a timely manner. Here again, the VE program can get "bad press" if the government sits on an idea only to be capitalized upon by an astute contractor.

Lastly, all attempts should be made to maximize VE incentives for contractors. This is not to say, however, that one should call anything and everything a VECP. Only valid VECPs submitted in the spirit and guidance of the FAR should be submitted and approved. Only then will the potential for disagreement be minimized.

The Value Engineering Incentive program is complex to administer and understand. It has been the subject of numerous litigation cases further attesting to the ambiguities surrounding it. What must always be in the forefront of the minds of those in the acquisition world is that value engineering can be a win-win relationship between the government acquiring the items it needs and contractors providing them. That is, however, *if* each party works together in building mutual understanding of how the program can work to each other's benefit.

Endnotes:

1. FAR 48.101(b)(1).
2. FAR 48.101(b)(2).
3. Covington Industries, Inc. (1968) ASBCA No. 14432, 71-2 BCA, Paragraph 8981.
4. Xerox Corp., (1973) ASBCA No. 16374, 73-i BCA, Paragraph 9881. 5. Ibid.
6. Syro Steel Co., (1969) ASBCA No. 12530, 69-2 BCA, Paragraph 8046.
7. Airmotive Engineering Corporation, ASBCA No. 17139, 74-1 BCA. Paragraph 10,517.

DISCLAIMER: The views expressed in this article are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

DoD's "Cost Premium" 30 to 50 Percent

Recent survey shows that doing business with the government adds costs without adding commensurate value.

by George K Krikorian, P.E.

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The Department of Defense (DoD) pays a premium from 30 to 50 percent more for products than the same or similar items sold to a commercial enterprise. In cases, the costs may be 100 percent higher. Those are the findings of a survey conducted among 12 companies that do both government and commercial business. The survey was conducted between March and May, 1992.

The major finding of the survey is that doing business with DoD adds cost without adding commensurate value. Other findings include the necessity of setting up separate entities within a company to do business with DoD and commercially.

During the deliberations of the Acquisition Law Advisory Panel in November, 1991, it was recommended that cost impact information from US. industry be obtained in order to quantify cost savings resulting from streamlining acquisition law. ADPA was asked to assist. ADPA solicited from selected industrial firms objective parametric data which would determine the cost of commercial products when applying the unique laws required to provide products to the DoD vice commercial enterprises, and conversely to determine the reduced cost associated with elimination of restrictive DoD laws regulating the defense industry. This difference is sometimes referred to as the "cost premium or penalty" for doing business with DoD.

Participating firms were selected based on their volume of sales mix between DoD and commercial business, especially as the sales related to the same or similar product or service. These products included aircraft engines, radar systems, satellites, avionics systems, and communications systems among others. In order to enhance the maximum degree of voluntary cooperation, all selected were corporate members of ADPA.

Study Findings

The results revealed the cost of a product when selling to DoD increases from 5 percent to 100 as compared to the same or similar product cost to a commercial (non-DoD) enterprise. Most of the cost increases are in the 30-50 percent range. The range variances are functions primarily of the product itself and the degree of company exposure to DoD laws, regulations, military specifications, standards, and procurement practices.

DoD regulatory issues which make a major contribution to the higher costs are:

- *Truth in Negotiation Act (TINA)*
- *Cost Accounting Standards (CAS)*
- *Federal Acquisition Regulations (FAR)*
- *Defense Federal Acquisition Regulations (DFAR)*

- *Competition in Contracting Act (CICA)*
- *Material Management Accounting System (MMAS)*
- *MIL-SPECS and Standards*
- *PL 95-507 Small and Minority Business Reporting*
- *Cost Schedule Control System Criteria (C/SCSC)*
- *Overly elongated Bid and Proposal to Award process*
- *Technical Data Rights and Warranties*

Companies had a difficult time distinguishing among laws, rules, regulations, military specifications, standards, and policy guidance. Industry tends to describe this as the regulatory pyramid where some 840 acquisition laws cascade to some 1500 FAR/DFAR clauses which cascade to 30,000 mil-specs and standards which cascade down to countless long established practices differing not only from service to service but by each command and directorate.

Military Specification/Standards
The mil-specs and standards came in for special recognition during the study. Government specs and standards have grown to stress the "how to" in all aspects of business operations and technology innovation versus that which is customary on the commercial side where contacting for “what” and “when” while avoiding the "How to" is commonplace. In addition government oversight provides compliance and validation of the 'How to."

Cost Impact Results
An attempt made to quantify costs and the cost drivers on the basis of company operations. Each organizational unit the firm could analyze their cost and relate to the equivalent organizational unit on the commercial side.

The table below displays the results. The cost impact data is based on responses from 12 companies.

Cost Impacts on Company Operations*

Company Operations	Added Costs
1 Purchasing, subcontracting, vendor and supplier contractor, raw material purchases	5-19 %
2. Manufacturing, production and assembly labor (hands-on labor)	2-8 %
3. Testing, inspection and quality assurance	10-13 %
4. Contract administration, finance management, oversight compliance and verification	6-17 %

*Includes impact of military specifications/standards, laws, regulations, and practices. Study responses. do not permit further breakout of cost impacts.

Recommendations
Stories like the 14-page fruitcake spec have given way to the 20-page hot chocolate and 8-page dog comb specs. This makes for good humor in the media, but it undermines the real purpose for specs and standards.

1. The buyer-seller relationship in our monopsonistic defense business requires major overhaul towards the integration of commercial and military technology. We need to remove those barriers which cause American industry to separate their DoD business and commercial business. New procurements should be required to demonstrate the necessity of using mil-specs and standards in place of commercial practices. It's time for "zero-based mil-specs."
2. We need to embrace a cultural overhaul to harmonize the relationship between government and industry from its current adversarial relationship to one of mutual trust and cooperation. Statutes need to be repealed to make true believers.
3. The implementation of Acquisition laws, regulations, specs and need to be of their "how to" emphasis. DoD should focus on "what is required" and permit the resourceful ingenuity our nation's very able technical community to discover "how."

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Editor's note.
This is an extract of Mr Krikorian's testimony before the House Armed Services Committee, Subcommittee on Investigations, July 22, 1992.

TUESDAY, MARCH 10, 1992 Dayton Daily New

Students’ design warms the homeless

PHILADELPHIA (AP) - College students asked homeless people what they would want in a coat. The result: Shelter-Pak, a coat that converts to a sleeping bag at night and folds into a carryall when it's warm outside.

The Shelter-Pak, designed as a class project at Philadelphia College of Textiles and Science, is worn by 80 or so homeless people in the city. An additional 200 coats are being sewn this year.

With its minimalist silhouette and monk's hood, it resembles Japanese avant-garde design or a prizefighter's robe.

"It's fashionable. College kids like them; they want to know where they can get them," said Brother Bill McDonald, who runs a shelter.

All the coats are given away, and distribution is handled by McDonald, who is careful about who receives one.

The garment was developed two years ago by students at Textile, who split into groups, or mock companies, each semester and develop a product for people with special needs.

Other products have included loose clothing for bum victims, stuffed caterpillars to help children with cerebral palsy develop their sense of touch and dresses for battered women.

The coat design was market-driven: Students asked the homeless for advice. Make it warm, they said. Water repellent. Roomy. In dull, inconspicuous colors.

And we need big pockets, they said. No buttons, buckles or zippers., "so they weren't locked in, so in case of attack they could get up and run," said Matt Mehrman an assistant professor of textiles now in charge of the coat project.

The result is a. full-length reversible garment of rip-resistant nylon on one side, heavy wool on the other. The coat ties shut, and sleeves are extra long, either folded back or extended to cover hands while sleeping. Two patch pockets on the wool side extend from waist to ankle.

Along the hem is a 2-foot-deep pocket. The coat can be folded into this pocket, creating a carryall with a shoulder strap. When it is unfolded as a sleeping bag, "you slide your feet into the pocket," McDonald said.

There are no plans to market the coats or the pattern.
"Our priority is to serve the needy,” Mehrman said.

“I realize this is a Band-Aid to the real issue," he said.

*A FUNCTION-DRIVEN, VALUE **ENGINEERED** PRODUCT!*

THE LAW OF SUPPLY AND DEMAND DOES NOT WORK IN GOVERNMENT CONTRACTING, BUT VE DOES!

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1990 SAVE CONFERENCE PROCEEDINGS

ABSTRACT

An analysis of the economic forces at work in the application of Value Engineering in government contracting. The benefits to both contractor and government are reviewed in a new aspect.

INTRODUCTION

Capitalism, the economic system that has helped the growth of our democracy, provides elements for motivation of businesses and industry to compete and prosper. A fundamental feature of this economic system is the ability to make a profit on the business. The entrepreneur is attracted by this feature and is willing to make the necessary investment in the business and/or enterprise based on the profit and the risk that is seen. Another feature of the economic system is competition.

The ability for businesses to compete with one another and to capture greater market share through being more competitive with the attendant growth of the business and profit is an additional motivator. In general, the economic system works with the traditional law of supply and demand, that is, demand increases as prices are reduced. However, this law does not always hold in government contracting, particularly in cases where competition does not exist.

COMPETITION IN GOVERNMENT CONTRACTING

The government continually tries to achieve competition in the purchase of the goods and services that it buys. This is quite apparent in the solicitation process as one can see through the activity that goes on with; advertising of bids; sealed bids; the acquisition of competitive data packages; and many other facets to the process. However, it is also true that a large measure of what the government buys is not bought competitively for many legitimate reasons: incomplete data packages; inability to find other manufacturers and/or suppliers that have the capability to produce; state of the art conditions; and other reasons that relate to the need to ensure that the products that the government buys have the quality and performance that are required.

A good sign of the fact that many items are bought as sole source is the need for Competition Advocates, J&A's, Reverse Engineering projects, and other activities. it is not the intention to imply that the lack of competition is a negative condition, only to indicate that it is a fact. The existence of this fact affects the business relationship in an interesting way when it comes to the law of supply and demand.

THE EFFECT OF SOLE SOURCE PROCUREMENTS

Examining the benefits that were stated to the capitalistic economic system where the law of supply and demand operates, a businessman can feel that by reducing prices, being more efficient or more competitive, he can obtain a greater market share. That might be true in a competitive environment, up to a point. But, in government contracting, the market is fixed by the government - it is a monopsony - one buyer and (possibly) many suppliers. In a sole source environment, if a contractor were to announce that he had a reduction in the cost of an item being bought by the government, the government would say "thanks", buy the item at the lower price with a lower gross profit to, the supplier, but would not necessarily or even probably buy additional units. There is no increased market share for the contractor. His reward for efficiency, and reducing costs has been lower gross profit - not an easy story to tell the financial reporters and his stockholders.

As an example, if a contractor were supplying a product to the government at $1,000 per unit, and the contract were for 1,000 units, the contract value/price would be $1 M. Assuming a 10% profit, the profit on this contract would be *$100,000.* If the contractor were @.o find a cost reduction (that he informed the government about prior to the next contract) of 20%, that is the equipment/supplies could be produced for $800 per unit - the contract price would now be $800 times 1000 units, or $800,000. Assuming the same profit of 10%, the profit is now $80,000, as compared to $100,000 in the previous case.

The government would not buy additional units just because the price was reduced - the force requirements are not determined by the price of the equipment, but on the needs of the force level. it is not too likely that a businessman would voluntarily do this. He is quite happy to supply the higher priced unit as long as there is a market for it, and there is no competition to make the need for cost reduction.

This analysis holds true for Fixed Price as well as Cost Reimbursable contracts nor is it affected by other cost reduction methods, such as Design To Cost, or the various Producibility clauses.

ENTER VALUE ENGINEERING

Most government contracts contain a VE clause, (Federal Acquisition Regulations: FAR Part 52.248) which provides a benefit to the contractor to reduce the cost of the supplies and services, in the form of a share in the savings, for which he obtains improved profitability, and which also benefits the government through reduced costs of the materiel and services it buys - a WIN-WIN situation.

The VE Clauses change the picture completely for the contractor and in turn for the government. In the same set of conditions as described above, the contractor who can devise a lower cost solution to the problem of providing what has been contracted for, is given a substantial financial incentive to offer it to the government, and thereby realize an improvement in his profitability on the contract. If the contractor can reduce the cost of the equipment by **20%.** or 200 as in the case above, the government in most instances will share the savings with the contractor on a 50 - 50 basis. Although the direct profit on the equipment that is now produced for $800 per unit, (at the same 10%) is $80 per unit, the government will also give the contractor 50% of the $200 savings per unit, or $100.

The contractor therefore realizes a profit of $180 per unit for the approximately $800 cost of the equipment. The profit-ability is 22.5% for the example given, as compared to the 10% without the VE clause. The contractor is entitled to this share of savings for three years, similar to a royalty payment, even if he does not successfully win the succeeding contracts, if any.

THE WIN-WIN SITUATION

As can be seen from the discussion above, the conditions as set up by the VE clauses in the FAR provide a benefit to both the contractor and the government. In almost all of the technology fields, electronics, computers, construction, etc., technology has been moving rapidly with many innovations introduced daily. Cost reductions are possible with the introduction of these new technology improvements. However, as outlined above, a contractor may not be inclined to offer these innovations because of the reduction in his gross profit. The cost of development and possibly the cost of implementation would also I)e a deterrent. so that the status is that the contractor does not offer the new ideas, and the government continues to pay the higher price.

Through use of the VE clause, technology insertion is a winner for both sides. The contractor has his costs covered for the development and implementation; his loss of gross profit due to the reduced unit cost of the equipment, is offset by the VE savings share which provides greater profitability, and the government buys an updated, latest technology unit at a reduced cost. Truly a WIN-WIN situation.

SUMMARY

I recommend that contractors become more familiar with the benefits of the VE clauses in their contracts. The improvement in profitability makes a good message to stockholders and the financial newspapers. I also recommend that the government people become more familiar with the benefits of the VE clause and encourage contractors to participate in the program.

The following is extracted from the “LETTERS” section of the February 1991, CONTRACT MANAGEMENT Magazine, and has been reprinted with their permission.

"VALUE ENGINEERING" - CONTRACTORS NEED INCENTIVES AND ENCOURAGEMENT

“VALUE ENGINEERING -”WHOSE Idea Was It, Anyway?" by Capt. Eugene J. Pickarz, Jr., *(Contract Management,* December 1990) identified problems the government’s value engineering (VE) program faces when a mutually beneficial program is not always wanted by the organization that stands to benefit from it

The government’s VE program is designed to provide contractors a substantial financial incentive to develop and submit value engineering change proposals (VECP) that generate savings, whether they be acquisition, collateral, or a combination of both. Unfortunately, there are four major reasons why contractors are *discouraged* from submitting VECPs:

- Government contracts personnel do not encourage contractor submission of VECPs because they do not want the additional workload required to settle contractually a contract change *that only saves money and isn't necessary* for program performance. 'Mere is no incentive for the contract specialist to handle an additional workload, which is generally unfamiliar and from which timely performance has been removed as a factor in government promotion of contracts personnel. The lack of encouragement and delay in settlement result in savings lost to the government and financial incentives lost to the contractor.

- VE program offices established at each major subordinate command *must* promote VE if the program is to succeed. This requires interfacing with industry at executive levels to obtain management commitment. Contracts personnel have, on occasion, instructed VE office personnel not to make direct contact with contractors. Their official reason may be fear of unauthorized persons making a constructive change which they cannot do, and the contractor knows this. I believe, however, that the reason may be a desire to avoid VECPs and their additional workload without individual reward.

- VE program offices are often located within an engineering directorate and are generally staffed with engineers. Since a majority of savings results from contractor-submitted VECPs, knowledge of contracts is essential. Most VE program offices, however, lack a jack-of-all-trades; i.e., a person knowledgeable in VE methodology *and* contracts. A position for this type of individual within the VE program office would positively impact the program. Initiative should be undertaken to establish a value-oriented career path.

- Government project managers (PM) - whose main concerns are schedules, performance, and budgets - are interested in VE when it helps them accomplish their goals. VE is best suited to alleviating budget woes since acquisition savings are reusable by PMs whose contractors successfully submit VECPs. In theory this is a great incentive; in practice it doesn't always work. By the time a VECP is finally settled, the PM who encouraged it has often gone. He doesn't benefit, although his successor does. Of course, the program benefits, but that alone is not always sufficient motivation for many individuals. A potentially more serious detriment relates to the government's funding policies. Funds expire if not used by a certain date. Too often VECP savings for the government cannot be reused since they were captured too late because of slow contract settlement and other factors.

In three of these four reasons why contractors are discouraged from submitting VECPs, success of the government's VE program depends to a large degree on contracts personnel. Their support in encouraging VECPs and facilitating expeditious settlement of these contractor-proposed savings would demonstrate to contractors that VE, an integral part of the Total Quality Management model, is rewarding for both contractors and government.

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(The views expressed above are solely the writer's, not his organization's or NCMA's.)

Evaluation of Fixed Overhead and General and Administrative Expenses in Value Engineering Change Proposals

by Elton L. Wylie

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The behavior of variable, semi-fixed, and fixed overhead type expenses may be problematic in certain instances of cost evaluation. It appears, in some quarters, that an adjustment to a contractor's direct costs (labor and possibly materials) implies that the negotiated overhead rates should be applied to the direct cost change without further evaluation or consideration. When one considers that this approach is likely being taken in several organizations, it may mean that quite a few million dollars are being paid out as value engineering (VE) savings when in fact they are not savings at all. To deal with any contract adjustment in this fashion is a disservice to the government an abrogation of the government contract negotiator's duty of fairness, and a failure to protect the taxpayers interests

As an example of what result can occur, let's look at a rather small value engineering change proposal (VECP) on a firm-fixed-price contract The contractor has submitted total gross unit savings of $2.20 per unit for this VE, with the proposal broken down as follows:

VECP A8A-5063

Direct Costs		
Material	$1.000	
Labor		.500
Direct Labor Overhead		
Variable (25%)		.125
Semi-variable (25%)		.125
Fixed (50%)		.250
Subtotal	2.000	
G&A Expense		.20
Total Gross Instant Savings		$2.20 per unit

Assume for this example that there were no implementation costs. Each party's 50 percent share would then be $1.10 per unit.

The instant contract quantity was 51,220 units, with future units for the three years of savings coverage finally amounting to 167,300 additional units. Total units of 218,520 each multiplied by the savings share of $1.10 would yield each party's share of $240,372. A surface analysis will not reveal the windfall received by the contractor on "future savings." Let's say that the total basic contract unit price was $31.50, for example. His cost breakdown **was** as follows:

Material..	$10.00
Labor..	8.00
Variable (25%)..	2.00
Semi-variable (25%)	2.00
Fixed (50%)	4.00
Subtotal...	26.00
G&A (10%)	2.60
Subtotal...	28.60
Profit (10%)..	2.86
Subtotal...	31.46
Cost of Facilities Capital.................................	.04
Total..	$31.50

On the instant contract the contractor projected his overhead rates as carefully as possible, perhaps with government involvement if this was a negotiated action. After-action audit may reveal the projections to be close, if nothing unanticipated should occur. Recalling the principle that in contract changes, we are to "leave the contractor as we found. him,"," let's, analyze the VECP savings in conjunction with the overhead accounts

In the contractor's variable account are such items as FICA. utilities and: some kinds of expendable support material such as lubricating oils. With a, reduction in direct labor, these costs will not all be saved. Items such as fringe benefits may be saved if the employee in question is actually furloughed.

For semi-variable items, there may be no change unleash there is a substantial reduction In direct labor, For example, health insurance costs may be .structured so that rates change for every 10 employees added! or deducted from policy coverage. In some cases this may mean a small decrease if there is a "per employee" change.

Fixed costs do not often change with a change to direct labor, they are simply reallocated on each new contract. If they are undisturbed as a result of a 'VECP, the contractor should receive what was initially projected as a fair allocation, even though in the accounting system he may reallocate the percentage for future business. Reallocation may change the percentage burden but the quantum amount of the pool expense is still present. The same situation will apply to G&A.

Let's examine how the costs behave if we simply proceed to apply the data as submitted. The instant contract quantity was 51,220 units with future units of 167,300.

51.200 x $1.10 = $56,342

In a "going concern" environment the contractor would have lost the allocation attributed to the .50 direct labor savings until such time as he has another contract where the overheads can be reallocated for this item or another. A "one contract" assumption is simpler and just as illustrative for this purpose. The contractor's apparent loss would be:

Variable	.125
Semi-variable	.125
Fixed	.250
G&A	.200
	(.70 - 2) ÷ 51,220 = $17,927

On future units. however, where the contractor has the opportunity to reallocate overhead so as to receive the proper distribution, the "savings' generated by the VECP in overhead are extras. This is true whether this contractor. produces the future units or some other contractor actually makes them, since the contractor who submitted the VECP gets royalties in either case. The government will still recognize the reasonable and allowable overhead charges when negotiating the future contract, even though some of these charges were supposedly part of the VECP savings. Our contractors “savings" for futures are as follows:

Variable	.125
Semi-variable	.125
Fixed	.250
G&A	.200
	(.70 - 2) ÷ 167,300 = $58,555

The future amount offsets the contractor’s loss on the instant savings by $40,628 in this instance. The government likely only received the initial $17,927 in savings, since the future overhead "savings" were reallocated. In my, experience, future units have al. ways been a larger quantity than the instant units. This is part of the reason that this lack of analysis is a problem. To properly identify overhead savings, a detailed analysis of overhead expense accounts is necessary.

To sum up this situation, I don't think failure to analyze indirect costs constitutes a professional way to do business from the government's standpoint. Perhaps others will disagree; certainly there are many individuals with better "bonafides' in accounting than mine. Perhaps, as a practical matter, a threshold for requited detailed analysis should be developed, such as $25,000 in gross savings, somewhat like small purchase levels. I will be satisfied if the airing of my opinion will start some discussion of this issue and lead to more in-depth analysis of overhead behavior when settling VECPs.

ABOUT THE AUTHOR

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CONTRACTING WITH AN AWARD FEE-IT WORKS! (BUT NOBODY SAID IT WOULD BE EASY)

Captain Gregory A. Garrett, USAF

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Case in point: The B-IB bomber Computer Integrated Test System (CITS), which monitors most of the aircraft's system functions such as wing sweep positions, line pressure, ordnance status, etc., was originally specified by the government to have a limit of two percent or less of false alarms. In reality, B-IB aircrews were typically seeing more than twice that amount of false alarms. The B-lB System Program Office (SPO) engineers at Aeronautical Systems Division working with contractor's B-.IB engineers were able to make several quick fixes to reduce the number of false alarms down to the required limits in a relatively short time. However, it became readily apparent that the government's originally required limit of two percent or less was inadequate and simply did not satisfy the needs of the user-USAF Strategic Air Command.

The government engineers then came to SPO contract managers for guidance and assistance in developing an incentive program by which the contractor would become highly motivated to lower the percentages of false alarms even further. A reduction in the CITS false alarm rate would reduce maintenance costs incurred to investigate if the alarms were the result of real or false problems and it would, in turn, increase aircraft availability. After conducting meetings between the government and contractor engineering, and contract management personnel, it was agreed that further reduction in the number of CITS false alarms would be a highly complex software engineering effort and a very difficult management task, because those false alarms remaining were the hard-to-fix items.

You see, even though the amount of reduction in false alarms could be objectively measured, the means by which to accomplish this reduction via changes in software consisted of cost, schedule, and quality requirements that could not be feasibly or effectively predetermined objectively. Thus, the parties agreed to incorporate the CITS improvement effort via a Fixed Price Incentive Firm with an Award Fee (FPIF/AF) type of contract modification to the B-IB development contract.

The inclusion of the award fee provided the contractor an excellent incentive and resulted in a true Win/Win situation for both the government and the contractor. The government won by having the false-alarm rate lowered to less than .03 percent, due to the contractor's high management emphasis on quality, timeliness, and cost-effectiveness. This CITS false-alarm rate of .03 percent represents a significant savings in government maintenance manpower and hours (an estimated 3,700 man-hours per year, per base) in checking mostly false alarms.

The contractor also won in this effort by receiving a return on investment which was significantly greater than their normal amount for the cost they expended. However, I contend that in this instance and in other cases perhaps just as vital if not more important to the contractor, the award fee application is successful because it prompts visibility, support, and favorable recognition of the effort by upper-corporate management. The participation and positive recognition by upper-management can serve to motivate the contractor team to achieve exceptional performance. Further, the favorable recognition from the government for a job well done can result in good media attention and coverage for the company, which in today's government contracting environment could be considered a rare and endangered form of media, thus a valuable commodity. Truly, when both parties involved in a% contract win, then you know the system is working.

So, now that you know that contracting with an Award Fee can work, you might be asking yourself some of the following questions:

- What exactly is an award fee?
- When should an award fee be used?
- How is the amount of available award fee originally established
- How is the contractor's performance evaluated
- What are the disadvantages to award fees?

The answers to these questions range from simple to complex, but, in the following paragraphs I shall attempt to answer them for you.

What exactly is an award fee? It is a subjectively determined amount of money paid to a contractor by the government for an effort which the contractor has performed on an award fee basis. Contracts with an award fee, such as a Cost Plus Award Fee (CPAF) contract, usually include, according to Federal Acquisition Regulation (FAR) 16.404.2, a fee consisting of the following: (a) A base amount of funds established at contract inception, typically ranging from zero to three percent of cost, and (b) an award amount the contractor might earn in whole or part during performance of the effort. This amount must be sufficient to provide the contractor motivation for excellence in critical areas including timeliness, quality, technical performance, and management effectiveness. Key elements to an award fee are that it contains a base fee portion and an award fee portion and that the fee is subjectively determined by the government, based upon the government's evaluation of the contractor's performance.

In addition, neither the government nor contractor can unilaterally establish an award fee contract between the parties; it must be mutually agreed to and bilaterally executed. After the contract is awarded, the award fee is usually paid in intervals based upon evaluations and a fee determination for specific periods of time and for specific level/amounts of performance. Another point to remember is that an award fee can be used on both new contracts and on contract modifications of various types including: Cost Plus Award Fee (CPAF), Fixed Price Incentive Firm with an Award Fee (FPIF/AF), Cost Plus Incentive Fee with an Award Fee (CPIF/AF), and other types of contracts.

When should an award fee be used? According to FAR 16.404-2, award fees should generally be included in contracts when the following three items are applicable. *First*, the work to be performed is such that it is neither feasible nor effective to devise predetermined objective incentive targets for cost, technical performance, or schedule requirements.

Second, the likelihood of meeting acquisition objectives will be enhanced by using a contract that effectively motivates the contractor toward exceptional performance and provides the government with the flexibility to evaluate both actual performance and the conditions under which it was achieved.

Third, any additional administrative effort and cost required to monitor and evaluate performance are justified by expected benefits. if these three items are applicable to a contract and/or contract modification you are involved with, perhaps you should consider using an award fee. Some government program managers of major programs place especially high value on the use of award fees because of the management capabilities it provides them as a tool to motivate contractors to superior performance. One caution: There are a few FAR imposed limitations on award fees including the maximum fee payable, depending upon type of contract (FAR 15.903), expected benefits versus the additional administrative cost, and other limitations stated in FAR 16.301-3.

How is the amount of available award fee originally established The answer to this question is: It depends. Various government contracting agencies will employ different methods to originally establish or determine the appropriate total amount of available award fee, which will serve to effectively motivate a contractor to achieve superior performance. Clearly, deciding upon the total amount of available award fee is an important part of the award fee planning process. The government does not want to provide a contractor too large an incentive "carrot," or too small of one. Some methods government contracting agencies have used to determine appropriate amount of available award fee range from developing elaborate means to calculate technical complexity and management risk, to simple calculations of possible contractor rates; for example, Return on Investment, Return on Assets, etc., compared to similar efforts. However, another caution, the Department of Defense FAR Supplement (DFAR) 16.404-2 clearly states that the weighted guidelines method shall not ,)e applied to CPAF contracts with respect to either the based (fixed) fee or the award fee. Since there is no one government mandated method for determining the appropriate amount of available award fee, the task of deciding upon an appropriate available award fee amount is up to the respective contracting activity. Yet, as stated, depending upon the situation, the monetary reward is usually not the sole motivator for a contractor in an award fee process.

How is the contractor's performance evaluated? This is when the fun begins. The contractor's performance on a contract containing an award fee provision is evaluated per an Award Fee Plan, written for the applicable effort. The Award Fee Plan is a detailed document prepared by the government which includes: the reasons for using an award fee, a description of the evaluation organization, its structure, responsibilities, and procedures, an explanation of the distribution of award fee funds to performance periods, and a precise breakdown of the evaluation categories, criteria, and possible performance ratings (see DFAR 16.404-2 for examples of the evaluation criteria and contractor evaluation report). The entire award fee evaluation process of an effort performed on an award fee basis is essentially governed by the Award Fee Plan, and key elements of the plan are the evaluation criteria.

Simply stated, if that is possible, the typical award fee evaluation process which begins after the award fee effort has been placed on contract, consists q of the following six primary steps for in each award fee period.

First, the contractor completes the required effort for a specified award fee period and then the contractor prepares a report to describe their performance using a self-evaluation process.

Second, the government award fee performance monitors prepare reports to detail their assessment of the contractor's actual performance versus the evaluation criteria established for the same period and effort.

Third, these reports are submitted and usually presented to an Award Review Board (ARB), which is responsible for conducting an in-depth review of relevant areas of actual contractor performance versus the established evaluation criteria.

Fourth, the ARB reviews the respective report and prepares an Award Fee Evaluation Report (AFER) that is submitted to the Fee Determining Official (FDO), usually the program manager.

Fifth, the FDO reviews the AFER, discusses it with the ARB and then usually receives an award fee self evaluation presentation from the respective contractor.

Sixth, the FDO makes the award fee determination and then the contractor is notified and later paid via a contract funding modification. Two important points to remember about the award fee process are; the FDO award fee determination is not subject to the Disputes Clause, and the process discussed above is the typical evaluation process and, as such, is subject to change.

What are the disadvantages to award fees? As mentioned, two principal disadvantages of contracting with an award fee are the cost required to monitor performance and the associated administrative effort and cost to evaluate the contractor's performance for the specified award fee periods, at the completion of each period. Another common disadvantage of contracting with an award fee is that few contracting and related acquisition personnel in government and industry are knowledgeable and experienced in detailed policy, procedures, and applications of award fees. Thus, most often, using award fees on government contracts requires extensive education and training of contracting and related acquisition personnel to ensure a successful award fee application. Certainly, disadvantages discussed above are not the only possible problems and the significance they may, or may not, play depend upon unique aspects of each situation. If you realistically assess potential advantages and disadvantages, I believe you will conclude that contracting with an award fee often makes sense.

Now that you know what an award fee is, when they should be used, how the fee amount is established, how contractor performance is evaluated, and a few pros and cons of using award fees, you have an overview of some key elements in this unique contractual process. Clearly, using award fees on government contracts to motivate and reward contractors to achieve government acquisition requirements and goals is a topic subject to debate and is far more involved than is discussed here. Yet, if you are planning an acquisition that has a problem calling for a contractor's performance over and above that which can be objectively measured and incentivised, under other than "usual" forms of government contracting, your solution may be contracting with an award fee

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The views expressed are those of the author and do not necessarily reflect those of the School of Systems and Logistics, Air University, the United States Air Force, or the Department of Defense

PRIME CONTRACTOR SPONSORED VALUE ENGINEERING

"*Creating a win/win situation between Prime Contractors and their Subcontractors*"

by

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The Value Engineering (VE) program described in the Federal Acquisition Regulation (FAR) Part 48, incorporated into Government contracts via the FAR VE clauses, emphasizes contractual cost reductions shared between the government and the prime contractor. However, the FAR VE clause does require the flow-down of a value engineering clause to subcontractors with subcontracts over $100,000 (or spares subcontracts over $25,000 or construction contracts over $50,000), and provides for the negotiation of savings between the prime and subcontractor. The two basic requirements for a contractor generated Value Engineering Change Proposal (VECP) are the same for prime contractors and subcontractors. A VECP requires a change to a contract, and that change must maintain the essential performance requirements while resulting in a net savings to the Government contracting activity. The requirement for a contract change gives rise to two distinct situations when one considers subcontractor originated VECPs. In one case, the subcontractor may propose a contract modification or change in accordance with the Value Engineering clause of a subcontract which requires a change to the subcontract and the prime contract. This is the situation contemplated by the FAR and adequate guidance exists to process this type of modification. On the other hand, the subcontractor may submit a proposal in accordance with the Value Engineering clause of the subcontract which requires a change to the subcontract in order to be implemented, but does not require a change to the prime contract.

In the second scenario presented above, the government is not required to participate in the VECP process, because its contract with the prime contractor is unchanged. Thus contract privity between the government and the prime contractor prevents the government from becoming involved with a VECP which only affects a prime contractor - subcontractor relationship. Strangely, it is rare to find government prime contractors with VE programs that do not require government participation before sharing any savings with a subcontractor. If value engineering is good enough to save millions of dollars for the U.S. Government when contracting with industry, why is it that industry is not promoting value engineering more within industry to industry contracts?

This paper develops the premise that there is a significant profit motive for the prime contractor to "go-it-alone" when necessary to promote VE efforts by subcontractors for the mutual benefit of both parties.

PRIME CONTRACTOR SPONSORED VALUE ENGINEERING PROGRAM (A PROPOSAL)

The prime contractor sponsored Value Engineering program is based on the premise that subcontractors are capable of identifying non-value-added costs arising out of over-specification, failure to take advantage of new technologies, simplification of processes, evolution of design, etc. A venture of this kind requires the prime contractor to adopt the philosophy that promoting cost reduction through sharing savings with subcontractors is in the best interest of all parties concerned. The prime contractor should recognize that sharing of savings or the provision for other business incentives is the most comprehensive method for maximizing results. The VE incentives adopted are limited only in part by the flow-down of the FAR in the case of subcontracts supporting government business, and in the case of commercial business by the parties' imaginations, the Uniform Commercial Code, Statutes, and Common Law.

Contractor VE programs have two principal objectives: (1) reducing cost to maintain or improve the company's competitive position, and (2) meeting the company's goal to provide value to a customer through continuously improved quality. Both objectives are compatible with a viable company's goal to expand its business base through the capture of increased market share. It has been long recognized that the customer's willingness to establish a long term relationship with a firm is rooted in a perception that products received are worth the price paid, one definition of "value."

The principles of value engineering are applicable to subcontracts supporting both government and commercial programs. However, the applicable law and administrative directives of each require slightly differing implementation strategies to achieve a common objective: cost reduction through increased value. For this reason, we have developed the following outline for our discussion of how prime contractors could develop and implement a program to increase subcontractors participation in VE.

Prime Contractor Sponsored VE
(Outline)

I. Government Flow-Down Subcontracts
   A. Proposed VE Program Scope
   B. Proposed VE Program Implementation

II Commercial Contracts
   A. Proposed VE Program Scope
   B. Proposed VE Program Implementation

I. Government Flow-Down Subcontracts

A. PROPOSED VE PROGRAM SCOPE

The Value Engineering Incentive (VEI) clause (52.248-1) and Value Engineering Program Requirement (VEPR) clause (52.248-1 Alt. I or Alt. II) are appropriate formats or guidelines for a prime contractor-sponsored VE program with subcontractors, VEPRs would be reserved for specific situations where the prime contractor believes significant savings can be identified, but the subcontractor is unwilling or unable to invest the funds necessary to develop potential VE changes. In all other cases, a VEI or voluntary program would be the program of choice.

Regardless of the program type chosen, our proposed prime contractor sponsored value engineering program would be limited to subcontractor VECPs which can be implemented without a modification to the prime contract, and adhere to the following conditions:

a. Result in a reduction in price to the "instant" contract, the contract under which the VECP was submitted and accepted, without using collateral savings to offset nonrecurring cost.

b. Future contract savings are paid on a royalty basis if the prime contractor contracts with that subcontractor for future lots.

c. Savings share arrangements negotiated-between the parties are not subject to the disputes clause of the subcontract, or otherwise subject to litigation.

B. PROPOSED VE PROGRAM IMPLEMENTATION

The prime contractor would continue to include a standard VE clause in subcontracts and purchase orders. The VE clause would continue to be applicable to the portion of the value engineering contemplated by FAR, as previously discussed. The processing of subcontractor initiated VECPs would include a test against this clause first. If the subcontractor's proposed change qualifies as a VECP, the next test would be to determine if the proposed change will require a change to the prime-Government contract, If the answer to this question is "yes," one proceeds as prescribed by FAR Part 48, and the appropriate FAR Clause. When the answer is "no," the proposed prime contractor-sponsored value engineering program special clause would then be invoked.

In addition to the standard clause mentioned above, the prime contractor would include a special clause in the subcontract or purchase order which defines the Prime Contractor-sponsored Value Engineering Program. It would define what conditions would make the clause operative. For example, these conditions could include:

a. The proposed change requires a change to the subcontract or purchase order, and

b. The proposed change results in an "instant" sub-contract or purchase-order savings (without the use of collateral savings in the computation), and

c. The subcontract or purchase order was placed in support of a government contract requirements, and

d. The government-prime contract is not changed as a result of the supplier-proposed change, and

e. The prime contractor concurs with the proposed change, and

f. The change is processed in accordance with the guidance provided in the special clause entitled, "Prime Contractor-Sponsored Value Engineering Program."

As in the case of the government-sponsored value engineering program, the prime contractor-sponsored VE program would contain only the essential conditions associated with qualification of a change, sharing arrangements and specific exceptions where appropriate. The specific language of the special clause is beyond the scope of this paper. It is sufficient to say that it should parallel the FAR guidance as closely as possible without introducing the condition of subcontract/purchase order cost growth.

In the case of commercial programs, recognition must be given to the basic premise that cost is at best an equal partner with market forces in the determination of price. Market forces contemplated include availability of competition in the market place, proprietary processes that exclude competition for a needed product, and the presence of other customers competing for a scarce resource. Since value engineering seeks to reduce cost so as to effect a reduction in price, the management of a commercial value engineering program requires more attention and creativity. The program must address the following issues:

a. Price is set as a result of cost and market forces.

b.Reduced cost may not automatically result in a-price reduction.

c. Subcontractors benefit from cost improvement by gaining greater price flexibility in a dynamic and competitive environment.

d. Value derived from reliability and durability are essential ingredients in commercial product value engineering.

II. COMMERCIAL SUBCONTRACTS

A. PROPOSED VE PROGRAM SCOPE

Principal contractor (equivalent to Government Prime Contractor) sponsored value-engineering would be limited to subcontractor VECPs that when authorized would show an acquisition savings within three years. The highest priority would be given to those VECPs that show a savings on the "instant" subcontract/purchase order. For example, a set of conditions might include the following:

The Value Engineering clause shall be invoked when:

a. A change to the subcontract or purchase order shall result in a lower unit price for an end item, and/or

b. The nonrecurring cost to develop and implement that change shall be offset by the unit cost savings on the "instant" contract or within the first three years, whichever is longer, and/or

c. In the case of a unit cost increase, the savings resulting from a decrease in requirements directly attributable to the proposed change must be realized within 3 years, and/or

d. The negotiated decrease in unit cost shall result in a corresponding decrease in the unit price for the end item.

B. PROPOSED VE PROGRAM IMPLEMENTATION

Consideration rendered to the subcontractor as incentive, for submitting the change may not always be a share of the acquisition savings. This is particularly true when the savings are not realized in the “instant" contract. Other aspects for consideration may include:

a. Agree to a sole source guarantee for a specified period of time at a unit price quoted in current year dollars to be escalated by a stated index.

b. Agree to a licensing arrangement in the case of principle contractor patents,

c. Royalty payments to be paid at **acceptance** of end items on future contracts.

d. Any other business arrangement the principal contractor and subcontractor may feel is beneficial, legally enforceable, and within the bounds of propriety.

SUMMARY:

The focus of value engineering on the reduction of cost while preserving essential function’s and improving quality has been proven successfully by the US Government over the past quarter century. Contractors who have embraced the program have added millions of dollars to their profits by sharing in savings. Perhaps more important, many contracts have been won by companies whose reputations for delivering value, through quality improvement, have been established in the value engineering area. The precepts of government-sponsored value engineering are also applicable to industry-to-industry subcontracting in support of government contracts, when a subcontractor initiated VECP will not require a change to a prime government contract. It is also logical to extend the program to commercial subcontracting. All parties concerned are motivated to participate in cost reduction when the opportunity for increased profits and stable long term business relationships are the result. Thus, we have proposed in this article guidelines for a VE program scope and implementation for the prime contractor sponsored VE programs with subcontractors operating in either the federal government or commercial market. This is an area of value engineering not often addressed, but one that presents a great potential for future successes.

CONCLUSIONS:

The **successes** achieved by prime contractors in government-sponsored value engineering are attributable to the **soundness** of the underlying philosophy of the value **engineering** program. Therefore, it is logical to pursue these **successes** in the industry-to-industry contracting arenas. The highly probable outcomes of such an initiative will be increased profitability for all parties concerned, stable relationships with subcontractors, and improved value for customers.

THE FAR VE CLAUSE - ENGRAVED IN STONE?

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I. Introduction

When the title of this article was chosen, I was under the impression that there was only one kind of stone - ***hard***. On CNN's 19 September 1993 Evans and Novak show, however, Mack McLarty, the White House Chief of Staff stated, "That's not written in absolute stone." So, apparently there are varying degrees of stone in which things are written. If the Value Engineering clause used in the federal Government is considered to be engraved in stone, it must be one of the softer variety. If any one word typifies the Value Engineering clause and its evolution, that word is "change." The VE clause used in the Government has been "under continuous improvement" since it was first implemented - and the changes are still coming. As I frequently tell my students, change isn't something to resist - the very essence of Value Engineering/Value Analysis is change.

II. Brief History of the Use of VE in the Government

As we all know, the use of an informal Value Analysis methodology began during the latter days of World War II. Many critical materials were in very short supply and the use of substitute materials became obligatory. Some of the substitutions were not as good as the originals but others proved to be as good or better than the original and - surprisingly, obtained at a lower cost than the original item or items. Lawrence D. (Larry) Miles conducted a study of these expedient actions at General Electric beginning in 1947 and discovered a veritable Pandora's box of answers, ideas, and procedures far beyond his original assignment. The technique that evolved from his studies was called "Value Analysis."

The first DoD activity to initiate a formal value program was the Navy BuShips agency in their shipyards. In 1954, Larry Miles and Roy Fountain of GE were asked to set up the shipyard program to help reduce costs as the cost of ship construction had almost doubled in the nine years since the end of WWII. To avoid some internal semantic problems, BUSHIPS asked that the program be called "Value Engineering" - the term still in use in the Government today.

The Army followed in 1956 at Watervliet Arsenal (a part of the Army Ordnance Corps), again with GE assistance. The success of this cost reduction program at Watervliet led to its spread to other arsenals and, by 1959, the Army Management Engineering Training Agency (AMETA) had begun to offer VE training in its curriculum.

Both the Navy and the Army's seminal programs were applied in house. The Air Force, lacking the organic capability of the other two services (with their shipyards and arsenals), was the first to apply VE contractually in 1961. The use of VE through contract clause coverage became the genesis for coverage first in the Armed Services Procurement Regulation (ASPR), then the Defense Acquisition Regulation (DAR) and currently, the Federal Acquisition Regulation, or FAR. The first mention of VE in the acquisition regulations, however, amounted to about one and one-half pages in a 1959 revision to the ASPR. This was not sufficiently complete to permit its use in a contract - it only referred to the concept and suggested its use to contracting officers.

III. Evolution of the VE Clause

In chronicling the evolution of the Value Engineering clause used in Government contracts, I will be eternally grateful to my mentor (and a person many of you looked up to and remember fondly) Professor Howard M. (Howie) Pryor. In the detritus left behind after his untimely passing was an almost complete set of regulations (ASPR and DAR), Defense Procurement Circulars (DPCS) and Defense Acquisition Circulars (DACs). All that was left was to read them beginning from the earliest in the file and note the evolution from change to change. For one thoroughly familiar with the Federal Acquisition Regulation, it was relatively simple to note where the earlier clauses differed and then see if that difference was changed from the previously- issued clause. Those of you familiar with the clauses prior to the FAR will certainly appreciate just how difficult it was at times to "plow through" the sometimes disjointed manner in which the earlier clauses seemed to have been written. The detailed reading of the clause from the beginning, on the other hand, certainly demonstrated the guiding hand and the improvements that were made in almost every iteration. A complete list of every change to the Value Engineering clause used in Government contracts is contained at the end of this paper - only those that made significant changes to the clause will be discussed below.

Initially, the VE clause (Incentive sharing) was used only with command approval (Revision 45 to ASPR, April 1959), evolved to use if agreeable to both parties (March 1962, Revision 8 to ASPR) and finally, on 31 December 1962 (Revision 13, ASPR) use of the clause became mandatory in certain prescribed conditions. These initial versions of the clause provided for Instant sharing only and sharing rates were negotiated. The December 1962 version permitted "tailoring" of the Incentive (voluntary) share rates but prescribed 50% of cost savings as the norm (previous clause had 50% of price savings as the norm) and further stated that the contractors share could not exceed 75%. Two other unusual characteristics of this clause was that the use of a Program Requirement was generally limited to cost reimbursement contracts as its use in fixed-price contracts increases initial costs to the Government. To use a Program Requirement on a fixed-price contract required approval of the HPA or Head of the Procuring Activity (now called the Head of the Contracting Activity - HCA). The other factor different from the current clause is that sharing with the contractor under a Program Requirement was not to have begun until cost reductions exceed the Government's funding by five times. After the savings exceed those 5X limits, the contractor could receive a 50% share.

ASPR Revision 3 (15 November 1963) contained a statement that the "likelihood [for cost reduction] will not be present in contracts for construction, research, or exploratory development." As we will see, construction became a possibility for Value Engineering by July 1964. Sharing under the Incentive sharing arrangement remained as before but the "five times" rule was deleted for Program Requirement VECPs and provided a 25% maximum share for Firm Fixed Price and incentive-type contracts and a 10% normal/10% maximum share for Cost Plus Fixed Fee contracts. Revision 3 also added a Data paragraph.

On 1 July 1964, ASPR Revision 6 extended VE sharing to construction contracts by changing when VE cost reductions normally would not be present - "architect-engineering" was substituted for "construction." However, in paragraph 1.1703.3 "Limitations," it was stated that a value engineering program requirement shall not be included in contracts for construction (including architect-engineering). While not proscribing the use of a Program Requirement in construction, the current FAR clause has no provisions to accommodate its use in construction contracts.

A major change was wrought by Defense Procurement Circular (DPC) 11 , issued on 9 October 1964. Sharing was expanded to cover the results of using the VE idea in follow-on contract(s) for the same end item (future contracts) and for sharing in logistics support costs resulting from operation, support and maintaining the changed item in the field (collateral savings). The Circular also authorized prime contractors to include subcontractor shares as a part of the cost of implementing value engineering changes. The sharing period could not be less than one year but could be as long as "three years from the scheduled completion of deliveries under the instant contract or the acceptance of the cost reduction proposal, whichever is later." Note, however, that the period is negotiable from one to three years and guidance was provided the contracting officer as to which end of the two-year continuum would be most appropriate. Sharing rates began to resemble the matrix used in the current clause but still contained "normals" and "maximums." A VECP submitted under a FFP contract was to receive a 50% normal/75% maximum share if the Incentive sharing arrangement were used and a 25% normal/25% maximum under a Program Requirement. A FPI or CPIF was to receive a 50% maximum under Incentive sharing and 25% maximum with a Program Requirement. For a CPFF contract, the Incentive sharing clause was not to be included and the contractor could receive a 10% normal and maximum share under Program Requirement. The Future share was never to exceed the Instant contract share and the percentages were given as: FFP, FPI and CPIF contracts 20%-40% under Incentive sharing; 10%-20% with Program Requirement. Again, the Future sharing on CPFF contracts was not applicable for Incentive sharing and was given as 5% for Program Requirement. The longer the sharing period negotiated, the lower the future share. Collateral sharing was 10% of one year's savings. The Contracting Officer could limit sharing to the Instant contract only if s/he felt that the contractor would be sufficiently motivated by such limitation. To provide guidance as to the future share, paragraph 1.1 702.2(b) contained a space to be completed in which the name of the service could be filled in - future shares would be based on future contracts awarded by that service. As most readers are aware, the share base is now defined as only the contracting office that awarded the instant contract (or a successor office to which the contracting action is transferred).

No major changes were promulgated in DPC 19 on 30 November 1964 but the change did contain a statement from then Secretary of Defense Robert McNamara in which he expressed his support of VE and suggested that "application of Value Engineering warrants strong incentives." A further statement asked all Departments (services) to expedite the application of VE clauses in all appropriate new contacts and to review all existing contracts to consider whether VE should be added. Another desirable item was added by DPC 26 on 8 April 1965 when a "Notice of Value Engineering Royalty Payments" was required to be added to all contract documents. This notice served to flag the file for possible royalty payments being due the Instant contract holder. Perhaps a similar requirement in the current clause would reduce the possibility of those payments "slipping through a crack."

Yet another desirable addition was made in DPC 39, issued on 16 March 1966. That clause required that a blank contained in paragraph 1.1707-2(b) be completed to identify the types of items considered by the Government to be substantially the same end items as those purchased under the Instant contract. After hearing some of the horror stories from field activities over the varying interpretations of what is the "unit," an argument can certainly be made for the reintroduction of such a definitization of what unit the Contracting Officer and the contractor intend. As for the blank added in DPC 11 , that was scaled down in DPC 39 to include the DOD agency or procuring activity. Sharing could be less than the service level. This DPC contained the first allusion to concurrent savings by adding a statement regarding the unit cost reduction on those contracts and how such a reduction would be calculated.

On 1 June 1967, Revision 23 of the ASPR provided the next major change to the regulation. Sharing of savings on Government Furnished Material (GFM) was categorized as "Acquisition savings," while other Government Furnished Property (GFP) savings continued at the more austere rate of collateral savings sharing - 10% of one year's identified savings. This Revision added that the VE clause was not appropriate in Time and Materials contracts. The sharing in multi-year contracts was much more explicit than the current FAR clause as to the intent of VE sharing. A procedure was provided for calculating the contractor's share but there was no deduction made for Government costs.

Defense Procurement Circular 65, dated 20 December 1968, Changed Future Sharing from a If normally shall" to "shall." Discretionary sharing on Future contracts (if sharing on the Instant contract alone would be considered sufficient motivation to the contractor) was continued in DPC 65 but the affirmative determination for such a decision was raised from the Contracting Officer to the "officer in charge of the purchasing office" (typically an individual at least one organizational level above the Contracting Officer). With the raising of this affirmative decision level, the determination as to whether collateral savings would not be shared with the Instant contractor was lowered in DPC 65 from the Head of the Procuring Activity (HPA) to the officer in charge of the purchasing office. The savings share on Instant contract savings under the Incentive sharing was change from "normally 50% and in no event greater than 75%" to a more discretionary "50% to 75%." Future shares were changed from "contractors share [on future acquisition savings] should normally be significantly less than his percentage share on the instant contract and shall never exceed it" to "should be less than his percentage share on the instant contract." In previous clauses, it was stated that the percentage share in future acquisition savings should be from 20% to 40% and, other things being equal, the longer the sharing period, the lower the future share. More guidance was provided in DPC 65 and future shares were prescribed as being at least 40% for a one-year share period, 30% for a two-year period and 20% for a three-year share period. If a lesser share was deemed to be more appropriate, an affirmative determination had to be made by the officer in charge of the purchasing office.

DPC 88, 20 May 1971 , deleted the Time and Materials contract restriction and changed the clause date from "(JUN 1967)" to "(1971 MAY)." The primary purpose of this DPC was to explicitly provide coverage of maintenance and overhaul contracts under acquisition savings rather than restrict the sharing under such contracts to collateral sharing.

The next major revision to the clause was made by DPC 121 , issued effective 1 0 May 1974. Beginning with this revision, the clause began to take on a resemblance to the current FAR clause. Concurrent contracts were explicitly recognized for the first time. The statement was added that "VE incentive payments do not constitute profit or fee subject to the limitations imposed by 1 0 U.S.C. 2306(d)." Sharing rates were no longer negotiated between a "normal" and a "maximum" rate - they were standardized and were identical to those in the current FAR clause, paragraph (f) with two major exceptions. For incentive-type contracts, the sharing was

65/35 (Government/ contractor) on an Incentive sharing arrangement and 80/20 on a Program Requirement. For Cost Reimbursement contracts (other than CPIF and CPAF) an Incentive share was "not applicable." The collateral share was raised from 1 0% of one year's savings to 20% and the limitations on the amount of the contractor's share were established at the same levels as in the current FAR clause. Government-furnished material (GFM) was removed as an exception to collateral savings and now all savings in Government-furnished property (GFP) was considered to be collateral. The sharing period was changed in that the beginning was no longer computed from the date of acceptance of the VECP; the share period clock now doesn't begin until delivery of the first item incorporating the VECP. This is a much more liberal interpretation and would likely increase the period during which the Instant contract holder would share in future savings. The negotiation of a share period was removed and the period was set at three years. A Contracting Officer check list was included for guidance. For the first time, unsolicited Value Engineering Change Proposals were recognized, with sharing to be the same as Collateral sharing (this recognition of unsolicited VECPs continued until August of 1977 (DPC 76-9) when such recognition was withdrawn largely because of the Grismac decision). A requirement was added that contractors must put a Value Engineering clause in all subcontracts greater than $1 00,000 and recovery of Government costs was now prescribed to be made prior to sharing net savings. Sharing was limited to contracts awarded by the same contracting office that awarded the Instant contract (rather than the Military Department or the Procuring Activity as in previous clauses). Submission of preliminary VECPs may be required by the Contracting Officer. A 6 month or less period was established for payment of royalties and the clause date was changed from "(1 971 MAY)" to "(1 974 APR)."

A relatively minor change appeared to have been made in Defense Procurement Circular 76-7 (27 February 1976) but this change had significant impact on how incentive-type contracts would be shared in later versions of the clause. A clarification was made to permit sharing on incentive-type contracts either on the established 65%/35% (for Incentive sharing) or 80%/20% (Program Requirement) as stated in the sharing matrix OR to share under the incentive structure of the Instant contract with no adjustment to targets or ceiling. The current clause contains only the latter sharing arrangement, although the clause language requires close reading to come to that conclusion.

The clause date was changed from "(1974 APR)" to "(1976 JUL)" in the 1 July 1976 edition of the ASPR. The only other change made by this edition was to incorporate the changes from DPC 75-7. There were some significant changes (one of which was quickly revised) contained in DPC 76-8, dated 15 June 1977. There were detailed descriptions/definitions of Instant, Concurrent and Future contract savings. The definition of Instant contract savings, however, read, "those measurable net reductions in the price of the contract under which the value change proposal was submitted. . . ." That was corrected to "cost reductions" in DPC 76-9. The 45-day processing standard for the Government was established, which standard continues into the current FAR clause. Another provision of DPC 76-8 provided for an Incentive sharing arrangement for cost reimbursement contracts other than CPIF and CPAF contracts. In previous matrices, that cost reimbursement block was marked "N/A"; now a share of 75/25 was prescribed.

Defense Procurement Circular 76-9 (30 August 1977), in addition to correcting the definition of Instant contract savings, contained two major changes. The paragraph dealing with data rights had previously given the Government unlimited rights to the VECP. This DPC change restricted the Government's rights to that data qualifying and submitted as limited rights technical data. The other change removed the unsolicited VECP provision (instituted in DPC 121) as a consequence of the Grismac decision.

Defense Acquisition Circular 76-26 (15 December 1980) contained two major changes - it formalized the Low Rate Initial Production (LRIP) or Engineering Development modification to the clause and changed the method of sharing on incentive-type contracts to that contained in the current FAR clause (contractors would share under the incentive structure of the Instant contract on the same basis as any other cost reduction with no adjustment of targets or ceiling). The DAC was also a major rewrite that completed the transformation of the DAR clause to that of the current FAR format. An additional change was made by Defense Acquisition Circular 76-39, dated 20 October 1982, in that the no-cost settlement method was added.

With the issuance of the Federal Acquisition Regulation (FAR) on 1 April 1984, the only change was a change of clause date from "(1 976 JUL)" to "(APR 1984)" but the remainder of the clause (and Part 48) was unchanged from the DAR. The FAR equivalent of the DAR's Part 1-1700 is now Part 48 (the policy guidance section) and the clauses in DAR 7-104.44 became FAR 52.2481, -2, and -3. The only other FAR clause since the original April 1984 issue was the reissuance in March 1989. This reissue removed the expanded sharing base and also changed the clause date from "(APR 1984)" to "(MAR 1989)."

IV. Major problems in the current clause

IV.1 Collateral Savings.

Despite the evolution into the precisely-worded clause we have in today's FAR, there are several problems that must be addressed to reduce interpretation errors and clarify it. There is a noticeable lack of consistency of wording between FAR Part 48 and FAR 52.248-1, the most glaring of which is in the area of collateral savings. In paragraph 48.104-2(b), collateral savings are defined to be "20 percent of the estimated savings to be realized during an average year of use...... while the clause, in paragraph 52.248-1 (j) defines the same sharing to be, "20% of any projected collateral savings determined to be realized in a typical year of use. ... Anyone with a basic knowledge of statistics can name at least three measures of central tendency ("average") and the inconsistency is further exacerbated by the lack of definitiveness as to what "typical" means. Also in the area of collateral savings, there exists a perception on the part of many contractors that collateral sharing is inequitable and should be expanded. A possible solution to some of these dilemmas is discussed below.

IV.2 Incentive-Type Contracts, Multi-year Contracts, Cost Allowability, and Other Problems.

There is also a definite lack of clarity as to how incentive-type contracts should be adjusted. The previous ASPR and DAR clauses were more explicit and a return to this definitization will be suggested. Because of agency interpretations, there is some confusion as to how multi-year contracts should be considered and this requires clarification. Another noticeable lack is that there is no provision in the current clause for sharing cost avoidance's in the acquisition savings area. In addition, there is considerable confusion between contractors and Government auditors as to how contractor costs expended to develop VECPs should be treated should that VECP submission be rejected. Possible solutions are discussed in the section below. There are a number of instances where the language in FAR Part 48 differs from the language used in the Part 52.248 clauses. These disparities need to be cleaned up. Many activities feel that profit should be allowed the contractor if there is a negative instant contract savings situation while others do not permit any profit on a VECP. These latter Contracting Officers feel that the contractor's share is their "profit" for the effort. The clause should provide more explicit guidance so that confusion can be avoided by all parties.

V. Changes being proposed in the clause - from wellsprings to groundswells

V.1 Collateral Savings.

The Army, as a result of the output from a Process Action Team (PAT), is making a recommendation to the DAR Council that collateral savings be based on a percentage share of an "average" year of use and, further, that the average be defined as "the arithmetic mean." In addition, a recommendation is being made that the contractor receive a 100% share rather than the current 20% share of that average year of identified collateral savings.

V.2 RAM-D.

DAR Case 91-948-02, as of this writing, is making its way through the regulation change process, and this change deals with the "Reliability, Availability, Maintainability and Durability" issue, also called RAM-D. The RAM-D process was used as a class deviation to the FAR but, upon expiration of the deviation, is being continued as an attempt to change the FAR permanently. This proposal will permit contractors to share in cost avoidance's by extending an acquisition share to the reduction in required quantities because of a VECP that extends the useful life of an item such that fewer quantities are needed in the future. There are some problems with the wording of the change but it is felt that those can be resolved and that contractors submitting VECPs can be equitably rewarded for their cost reduction proposals.

V.3 Cost Allowability.

The problems stemming from differing interpretations of the cost allowability issue are addressed in DAR Case 89-01 0, Cost Allowability. Some contractors (those with tight profit pictures and an apparent surplus of overhead available) feel that the cost of developing a VECP should be an allowable indirect expense regardless of whether or not that VECP is accepted or rejected. The current clause (in Part 48.101(b)(1)) only states that "the contractor uses its own resources to develop and submit any value engineering change proposals (VECP's)." The definition of "own resources" is open to considerable interpretation and has led to the request for the DAR Case. Other contractors, on the other hand, continue to be willing to fund VECPs out of their profits, receiving reimbursement if the VECP is accepted and being willing to absorb the development costs in their profits if the VECP is rejected. They do not want their overheads raised as they feel this will place them in a less desirable competitive position. A resolution on this DAR Case is likely to be made prior to the presentation of this paper.

VI. Impact of OMB A-131

The Department of Defense, almost from the beginning of the use of Value Analysis concepts, was the only federal agency to really use and promote VE in its contracts. There was some minor efforts by others but nothing of significance. In an effort to expand the cost reduction potential of this concept, the Office of Management and Budget issued its OMB Circular A-131 on 26 January 1988 with the purported purpose of "requir[ing] the use of value engineering ... by Federal Departments and agencies to identify and reduce nonessential procurement and program costs." The policy paragraph was imperative ("shall") in requiring agencies to use value engineering and the Circular got a number of Federal agencies "on board" the VE bandwagon. However, because of some loopholes (such as the use of the term "where appropriate"), the Circular was reissued effective 21 May 1993. This reissue contained more definition as to where the use of Value Engineering is considered appropriate (as well as where it might not be applicable) so that agencies could not use quite as liberal an interpretation in making their decisions as to whether or not to use Value Engineering. The new circular also contains reporting requirements replacing the previous ad hoc reporting. Having the FAR, which is used by all federal agencies, buttressed by OMB Circular A-131, certainly has and will continue to facilitate the promulgation of VE throughout the federal government.

VII. The future - Continual Improvement/Continued Evolution

The acquisition environment being faced by the U. S. Government and its contractors is changing and will require change on the part of all parties if we are to survive. One of the critical concepts that will provide the requisite cost savings is Value Engineering/Value Analysis. The clause, as we have seen, has always been responsive to changed needs and will continue to do so. The individuals who are most involved in the contractual side of VE/VA will continue to watch the fires and will do whatever is necessary to make certain that the flames continue burning.

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VALUE ENGINEERING AND PERFORMANCE SPECIFICATION CONTRACTING:

AN ANALYSIS OF POTENTIAL

ISSUES AND SOLUTIONS

15 June 1999

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FOREWORD

The purpose of this paper is to highlight those value engineering issues which are created by the use of performance specifications or which become more apparent during the value engineering – performance specification analysis. This paper presents some initial (not final) solutions to the issues raised. Brief comments on the importance of doing objective analysis also have been included.

While the primary focus of this paper is on the Federal acquisition process and contract language, the issues are relevant to any two contracting parties.

ACKNOWLEDGEMENT

Many of the issues and solutions contained in this paper were developed in coordination with Janice Dove of the Army Aviation and Missile Command's (AMCOM) Value Engineering Office.

DISCLAIMER

While this paper represents the author's position and not necessarily that of any Government Agency, the proposed solutions have been circulated within Government value engineering and legal channels. Most of the solutions have been utilized in one or more AMCOM contracts.

I. BACKGROUND

A. IN THE BEGINNING: VALUE ENGINEERING (VE) AND TECHNICAL DATA PACKAGES (TDPs)

In the beginning we had a solution for VE concepts in "traditional" acquisitions which used a TDP to define the requirements. That solution was the VE Clause1. Perhaps the VE clause worked well from the start, or perhaps it required some fine tuning after some initial use. In any event, we now have a method for implementing VE initiatives in an acquisition which uses a TDP. Just recently, AMCOM developed one major improvement to that VE clause. That improvement is the authorized deviation currently in use DOD-wide which allows more contracting officer flexibility as to share rates and savings periods. Other improvements have been proposed and are under consideration. The lesson here is that no matter how well something may be working, improvement is always a possibility.

Treating every acquisition as if it were exclusively a TDP or performance specification buy is an over simplification of the real world. However, such simplifications are useful in discussing theory and in focusing on certain points. So for this paper, a TDP buy is one that defines every step, process and material that goes into an end item. The contractor builds to the contractually designated TDP, and the Government retains absolute control via the TDP. The Government also warrants that the TDP is good and pays if it isn't.

B. PERFORMANCE SPECIFICATIONS (PSs)

While the use of a PS (in lieu of a TDP) has been Department of Defense policy for several years, the transition has been slow and difficult. At some time in the future, after all of the old TDP-defined systems are gone and we are buying spares for systems that never had a TDP, we might complete the transition. In the meantime, we have three types of buys: TDPs, PSs, and a mix of the two. For this paper a PS is a document that defines the requirements of an end item by performance and interface statements only. It does not limit the contractor to specific designs, processes, procedures or materials. It buys a "box" that does certain functions, and how the contractor creates that "box" we do not care (so long as it is legal.)

While I have not researched the history, it is a good guess that "reported" VECP savings began to fall as PSs were used2. There are two reasons for this which are discussed in detail later: (1) a false assumption that the VE clause applied only to changes in the TDP or end item; and (2) the very real fact that a PS contains very few Government controlled or mandated contract requirements.

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1 Reference to the "VE" clause means the Federal Acquisition Regulation clause at 52.248-1 or authorized deviations to that clause.

2 Data confirming this assumption was in fact presented by Mr. Jean S. Jines, President of JAVA, during a VE training session at AMCOM on 20 April 1999.

C. DEPARTMENT OF THE ARMY'S (DA) INITIAL SOLUTION: ACQUISITION COST REDUCTION INCENTIVE (ACRI) CLAUSE

The clause was issued by DA on 8 Jul 96 as a test for certain contracts. It appears to have been an attempt to address the false assumption that VE applied only to changes required in the TDP and (at least indirectly) to apply VE to PS acquisition.3 The concept of the ACRI clause was simple – any time that the contractor found savings outside of the perceived limitation of the VE clause, he could receive a share of those savings. Unfortunately, the implementation was far too simple and was not analytically tested prior to implementation.

My legal analysis found that the clause contained undefined terms (which are hard to enforce), bad assumptions, internal inconsistencies, and a flawed savings formula that generally gave away twice what was intended. Implementation was halted immediately at AMCOM and eventually at AMC.4

D. AMCOM'S CURRENT SOLUTION

At about the time that the DA solution was being withdrawn, I was confronted with a specific contract action where the contractor and the AMCOM VE Office were attempting to address the VE – PS issue. A contract clause addressing the issues (so far identified) for a firm-fixed-priced (FFP) Supply PS contract was developed. That initial solution has been circulated DOD-wide, and AMCOM has been recognized for developing it. However, a solution for one specific contract was not an acceptable substitute for a universal solution on how to make VE work with PS. As time went on and the AMCOM VE Office asked more questions and posed more situations, I finally decided to address all issues that could be identified and to attempt a workable solution for any contracting situation. The process for doing this analysis will be discussed in Part II, and the results of the analysis will be discussed in Part III.

II. THE ANALYTICAL PROCESS: IDENTIFYING AND RESOLVING ISSUES IN ADVANCE

Anticipating and solving problems in advance saves time and money. In my 15 years as an acquisition attorney, there have been numerous occasions where such up front analysis has saved the Government anything from a few thousand dollars to millions of dollars (actually, tens of millions5). The possibilities are endless, you just have to

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3 See third paragraph of Dr. Kenneth J. Oscar's memo of 8 July 1998, Subject: Acquisition Reform Incentive Clause.
4 The legal ramifications of a Value Engineering Change Proposal (VECP) submitted pursuant to that clause are significant, and legal counsel should be consulted.
5 Two significant examples are the ACRI clause and the PPE clause. As mentioned, my analysis of the ACRI clause ceased its inclusion in all Army Material Command (AMC) contracts and, hopefully, some number of DA contracts. Had the clause been included (or not removed), the Government would have paid excessive VE savings to contractors or spent considerable resources on legal/contractual resolutions. The PPE clause was an exculpatory clause that

keep an open mind and ask the right questions. However, "thought before action" is only the first part of the process. Objectivity and a "win-win" approach also are valuable, if not essential, ingredients.

While the analytical process is structurally very simplistic, the actual analysis is limited only by your imagination. You should keep in mind that there are many layers at which the analysis might be conducted. Even the definition, or lack thereof, of the most innocent-looking term in the VE clause may hold the key to an important issue. As emphasized by the later discussion of "allowable" costs, overlooking one word in the VE clause can result in the loss of significant savings to the Government6.

A. THREE QUESTIONS:

1. HOW SHOULD IT WORK?

What is the end objective? A VE clause which eliminates potential issues while providing an effective incentive to insure maximum benefit/savings to the parties from potential changes? Define your objective and then a process or procedure to achieve it. Within the limits of available (or obtainable) authority, be creative as to how you state the objective or describe the process. This is nothing new. We do it every day when we write a contract that does not look exactly like any prior contract. What may be new is writing contract language while objectively considering the answers to all three questions.

2. WHAT MIGHT GO WRONG?

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made the contractor responsible for the TDP. (Essentially, the contractor was to meet the performance requirements using the TDP and to pay any costs needed to fix the TDP.) Anticipating the potential for disagreements over this unusual provision, the Government revised the clause during negotiations to avoid any ambiguity. The two contracting parties clearly understood what was agreed. However, when the original contractor was acquired by another, the second contractor challenged the PPE clause seeking an increase of $40 million to the contract price for changes to the TDP. Because of the up-front analysis and drafting effort, the claim was denied and the agreement of the parties was enforced. (See Nash & Cibinic Report, Vol. 12, No. 1, #2.)

6 Paying all of the development and implementation costs when only a portion are properly allocated to the Government contract reduces the amount of Government savings and is technically an improper payment. (The consequences of a contractor requesting an improper payment and the Government making one are beyond the scope of this paper.) Additionally, when the development and implementation costs are greater than they should be, it can result in a rejection of the VECP for insufficient reduction to the overall projected cost.

Once you create a workable solution, DO NOT STOP THERE! Too often people stop with what looks like a good idea and fail to test it analytically before using it. That's what happened with the ACRI clause. Look at the solution from the contractor's and the Government's point of view. (I.e., be objective.) Then ask what might go wrong. Assume that the parties will, in fact, disagree about key elements of the solution. Use your imagination to identify not just the likely problems, but the unlikely ones as well. Are all key terms defined somewhere in the contract?

3. HOW CAN IT BE FIXED IN ADVANCE?

During this entire analysis it would be useful to get your attorney involved, but doing so is essential when drafting the contract language. Attorneys are trained to analyze in this fashion and to look at situations objectively. Usually the "fix" will involve writing, or revising, contract language or obtaining additional authority within Federal contracting channels. For Federal acquisitions creativity must be tempered by legal and regulatory requirements as well as the need for clear and binding contract language.

B. OBJECTIVITY

There is no easy way to discuss this. Scientists are taught to conduct experiments with complete objectivity, but rarely are people taught to apply that same objectivity to human activity. As difficult as is it to be truly objective about how you observe external events and facts, it is nearly impossible to eliminate personal biases in one's own reasoning and analysis.

Should a dispute arise, the contract language will be interpreted by "objective" boards and courts. So to achieve the desired result from any contract language, you must be objective when drafting. If you can at least look at an issue from the point of view of all the involved parties, that practice will go a long ways towards an objective analysis.

III. THE VALUE ENGINEERING – PEFORMANCE SPECIFICATION ANALYSIS.

A. HOW SHOULD IT WORK?

1. WHAT IS A "REQUIRED CHANGE TO THE CONTRACT"?

The exact words in the VE clause are "Requires a change to this, the instant contract, to implement"7. The definition does not focus on the end item or the specifications or even the

7 FAR 52.248-1 defines a value engineering change proposal as "a proposal that—
Requires a change to this, the instant contract, to implement; and

Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change—

Statement of Work. Its focus is on any change to the contract necessary to implement a value engineering change proposal (VECP). You might think that this seems rather clear and simple to understand. In practice, many individuals (even those who are knowledgeable in the VE area and in litigation of contract language) have misinterpreted these words.8 In 1990 DA argued before the Armed Services Board of Contract Appeal (ASBCA) that "there must be a change to the end item." The Board's reply was to confirm that the words meant what they said:

> *…such a restrictive reading would preclude many other legitimate cost savings proposals to the Government related to the contract which do not Change the end item….The VEI clause merely requires that the proposal "require a change to this contract to implement the VECP…." This serves to insure that the proposal provides something different from what the Government has already required by the design specifications, yet is not so far removed in subject matter as to be beyond the general scope of the contract.9*

There is much room for legal debate even with the above quote. However, the bottom line is that if the contracting parties can identify a way for both to financially benefit from doing something different (which is not an "out of scope" change10 or specifically excluded11), it can be covered by the VE clause. This is true even if what you want to change is not currently a firm contract requirement. However, as we will see, utilizing the VE clause in these nontraditional ways will necessitate some added language to fully protect the parties.

More specifically, the clause covers "a proposal that requires a change…to implement.12 It is important to note that the "proposal" and the "change" need not be the same. A "proposal" might address altering current firm contract requirements13 (i.e., performance specifications, packaging, data items, or even the use of discretionary FAR

In deliverable end item quantities only;

In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or

To the contract type only."

8 Dr. Oscar's 8 July 1996 memo issuing the ACRI clause stated that it was needed in part because "VECPs…are perceived as being mostly applicable to changes in the design of a system or item."
9 See <u>ICSD Corporation</u>, ASBCA No. 28028, 16 May 1990, 90-3 BCA 23,027, at page 115,629.
10 An "out of scope" change is one that was not reasonably within the contemplation of the parties at the time of award.
11 See footnote 7.
12 See footnote 7.
13 Any part of the contract, not just the end item or specifications. See footnote 8.

clause) or adding firm requirements (i.e., restricting the contractor's freedom under the performance specification by mandating the use of a specific material or process). While the "change" could simply capture the essence of the "proposal", it might also be the addition of new contract rights or duties (i.e., incorporating an agreement as to royalties or Governments rights in data) that enables the "proposal" (whether or not specifically stated in the modification) to be implemented.14

It can be argued that a contract modification is required to accept any VECP15 and that the contract modification is by definition16 a "change" to the instant contract. Therefore, every VECP modification regardless of content, can be said to meet the "required change" condition. While such circular reasoning should be rejected17, it does serve to emphasize the point that any substantive change to the contract (which means all the rights and duties of the parties) is sufficient if that change was required for the parties to receive the benefits of the VECP.

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14 Three examples may help to clarify this point.

> **a. If the use of material X would allow for significant cost savings but that material will not meet a certain performance requirement. The "proposal" to use material X could be implemented via a "change" to the performance requirement. The modification implementing the "change" would revise the performance specification (to something which allowed X to be used) and adjust the contract price for the shared savings. The modification need not mention use of material X. (In a true performance specification the Government does not contractually control the design, process, procedure or materials.)**
>
> **b. If the contractor's development and implementation costs are in excess of the savings available to the contractor under the instant contract, that "proposal" never will be implemented in the instant contract as an internal (i.e., non-VE clause) contractor change. The VE clause is needed to provide access to additional savings (concurrent, future or collateral) which make the "proposal" a win-win proposition. A VECP modification is required to accept the "proposal." That modification will address (directly or indirectly) sharing rates, amount of savings to be shared and method, sharing periods (under the deviation to the VE clause), and data rights. These elements of the "change" are required in order to implement the "proposal".**
>
> **c. When a contractor chooses to implement a savings proposal outside of the VE clause (freedom often conveyed by a performance specification), the Government may receive the benefit of those savings in future contracts with that contractor via cost and pricing data disclosure. However, in competitions, concurrent contracts, future contracts (not with that contractor), and where restricted or limited data rights are alleged, the proposal will be "implemented" in such future or concurrent contracts only if there is a modification to the instant contract accepting the VECP.**

15 FAR 52.248-1(e)(3).

16 FAR 43.101

17 In legal analysis an interpretation that renders specific language as meaningless is generally not an acceptable interpretation.

2. WHEN IS A VECP DESIRABLE TO THE PARTIES?

The simple answer is when one party will gain and the other will be neutral or also gain. The real answer is much more complex.

a. FIRM-FIXED-PRICED (FFP) CONTRACTS18.

Under a FFP contract the contractor keeps all of what would have been "instant contract savings"19 if he can (and does) implement the change without a contract modification. The contractor's freedom to implement changes without such a modification depends upon whether the change is to a firm requirement of the contract. As noted previously, a contractor has significantly greater freedom to make such changes under a PS acquisition. Generally but not always, the Government will get savings related to other concurrent contracts, future contracts and collateral savings20.

If a contract modification is needed (or obtained) to implement the change, then either the VE clause or the Changes clause will be used. Under the Changes clause the rules governing equitable adjustments21 apply and the contractor is likely to get his development and implementation costs if the change is for the Government's benefit; or the contractor may have to compensate the Government if the change is for the contractor's benefit. Under the VE clause the contractor and the Government share the savings after reimbursing costs. Use of the VECP after the sharing period is generally without cost to the Government if data rights are not an issue22.

b. COST REIMBURSEMENT CONTRACTS23.

If a contract modification is not required (or obtained) to implement the change, the contractor will get his "allowable" costs24 but no savings or increased fee. (This assumes that the change is one allowed under the terms of the contract and not otherwise prohibited by other Government acquisition statutes and regulations.) If the Government has the right25 to

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18 Incentive contracts have special rules under the VE Clause.

19 This includes such savings under "concurrent" contracts between the same parties. See the VE Clause for definition of "instant contract savings" and "concurrent".

20 The anticipated future Government savings are a result of this change becoming part of the contractor's cost and pricing data for negotiating future contracts. Data rights restrictions or competitive actions which do not force the contractor to his lowest possible price may alter this assumption as to future Government benefit.

21 The rules for an equitable adjustment under a Government contract can be quite involved, and no attempt will be made herein to cover that topic.

22 See FAR 52.248-1(m).

23 Discussion is primarily concerned with the most common type, a cost plus fixed fee. Incentive contracts have special rules under the VE Clause.

24 For Government contracts the term "allowable" has a specific meaning. See paragraph III. B.2.a.

25 This could involve some complicated data rights issues under the data rights clause of the contract. The particular focus is on what is to be (or has been)

use this change in other contracts, the Government will receive the total benefit. If it is an incentive contract, the increase in allowable costs may actually decrease the contractor's final fee.

If a contract modification is needed (or obtained), we have the same two options as with FFP: the Changes clause or the VE clause. If the VE clause is used, the contractor receives an increase in fee at the time the modification accepting the VECP is executed.26 This means that the estimated cost to complete the contract must be relied upon at the time of accepting the VECP and calculating the savings to be shared and paid. It also means that the actual cost to complete the contract and the actual savings realized by the Government play no part in determining the savings paid to the contractor.27

c. MOTIVATIONS.

Under a PS acquisition very little, if any, of the design/manufacturing process and procedures are subject to a firm requirement of the contract (i.e., Government control). That means that for many, if not most, of the potential contractor changes, the contractor can choose whether or not to submit a VECP or to implement it on his own.

There are three situations in which it is in the contractor's interest to use a VECP:

-When the contractor's share of all potential VE savings (instant, collateral, concurrent and future) is greater than the savings available (usually 100% of instant contract savings) outside of the VE program;

-When development and implementation costs to the contractor exceed available savings under the instant contract28; and

-All cost reimbursement contracts.

There are two situations in which the Government may insist upon a mandatory VE program29 or a reopener clause30: when negotiations must be concluded without the cost impacts of some potential change/development because it is as yet unproven (or high risk); and when a potential change represents significant Government benefit but insufficient savings to motivate the contractor. In the first situation a reopener clause might be used to avoid a one-sided windfall to the contractor should the unproven change become acceptable

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delivered or developed under the contract and whether the Government paid for the development.

26 This is the normal sequence contemplated by the VE clause. Actual practice may be to defer the increase in fee.

27 This timing issue is discussed in more detail later. While the problem is common to either a TDP or a PS acquisition, the Government risks can be dramatically higher under a PS acquisition if the contractor is not contractual bound to implement the VECP.

28 I.e., "negative instant contract savings" in VE terminology.

29 See FAR 48.101(b)(2).

30 A reopener clause sets a firm agreement on price but allows for the adjustment of a certain element of that price should a specified condition occur.

(or low/no risk) during performance. However, in both situations a mandatory VE clause might be considered.

3. CHANGING SOMETHING THAT IS NOT A CONTRACT REQUIREMENT.

The heart of the problem with PS and VECPs is the conflict between current policy, which prohibits the Government from taking contractual control of the contractor's design/production process and procedure, and the perceived need to capture in the contract modification the change described in the VECP. As discussed earlier, it is possible to have a "required change" to the contract (i.e., one necessary to implementation of the VECP) and for that change to address rights and duties of the parties without making the specific change a firm contract requirement.

How do we pay out savings for a VECP which the contractor is not contractually obligated to implement? When the contract does not guarantee implementation of the VECP, we can withhold the payment of savings until those savings are realized. It is a matter of timing, and that issue is discussed in the next section.

B. WHAT MIGHT GO WRONG?

1. TIMING ISSUES

There are two basic timing issues that must be examined to insure that the Government is protected by the specific agreement implementing a VECP:

- the first is when we pay the contractor his share of the savings before the Government realizes those savings; and

- the second is when the contractor has concurrent contracts and can choose which one to make the "instant contract".

a. FFP CONTRACTS

Under a FFP TDP acquisition we are guaranteed to receive the change in all units covered by the VECP, because the VECP modification captures that change as a firm requirement. The possibility that the change might be overtaken by events prior to implementation in future units was a known and assumed risk. For example, obsolescence (and replacement) of a sub-component might eliminate the area changed by the VECP and might eliminate any savings that the Government was to receive on the future unit price. The obsolescence could even necessitate an equitable adjustment (or higher contract price at award) on those future units. The current VE clause requires that the contractor return savings only when the Government does not "receive and accept" all items31. The VE clause does not guarantee that the savings will, in fact, be realized by the Government.

If we pay (via a lump-sum) in advance of firmly negotiating the future unit price with a contractor, or if we pay royalties to a contractor on future units which are bought from a different source, then in a PS buy there is no assurance that the Government will receive

31 See FAR 52.248-1(g)(4).

the benefit of that VECP on those future units.32 While we may capture a description of the VECP change in the modification so as to identify whether that VECP is used in concurrent and future contracts (or produced collateral savings), under PS, we would rarely make it a firm requirement of contract performance.

b. COST CONTRACTS

In addition to the issue regarding future units discussed under FFP, all cost contracts (TDP or PS buys) have another timing issue. The normal VE adjustment for cost contracts calls for an increase in fee at time of accepting the VECP. Such an increase is based upon savings projected from an estimate of the cost to complete before the VECP and the estimated cost to complete after the VECP. Since these are only estimates and the Government must pay all allowable costs of performing the contract, there is no guarantee that even the instant contract savings will be realized regardless of how well, or how poorly, the VECP is defined in the modification. However, it would indeed be foolish to pay out projected savings for a change that was not contractually imposed.

c. MIXED CONTRACTS

Any time that the analysis is complicated by mixed types of contracts, my standard advice is to resolve the issue for each contract type as if the other type were not present. Once you have the solution for each type independently, then and only then should you look at how having multiple types impacts the ultimate solution.

Incentive arrangements also change the VE analysis and solutions. While the VE clause addresses the direct impacts, we must also look at the complications caused by multiple incentives. See FAR 52.248-1(k) for some guidance, but do not stop there. Make sure that you understand all of the incentives that may be contained within the contract33 and how they complement or conflict. Then ask the question – "what can go wrong?"

d. CONCURRENT CONTRACTS

I will use the most obvious example to illustrate this issue. When a contractor has concurrent contracts for the same component/requirement that is the subject of a potential

32 The VECP utilized by the first contractor might not be applicable to the next contractor's method of performing the contract. Additionally, a new contractor might have significant implementation costs (associated with the first contractor's VECP) which can reduce or eliminate the savings to the Government.
33 Since a contractor is financing the cost to perform/deliver until payment is made, there is always an incentive for early delivery, if allowed. The inclusion of a progress payment clause would lessen that incentive. Special award fee provision may be included for unique issues like unit production cost or obtaining a certain level of performance. These types of award fees can alter the impact of a cost incentive in the contract, including the VE Clause.

VECP, he has an option as to which contract becomes the "instant" contract, and the others become "concurrent" contracts. For PS the contractor often has a second option. He could implement the change outside of the VE clause on certain contracts and then submit the change as a VECP under the remaining concurrent contracts.

Example. With concurrent FFP PS and Cost Reimbursement contracts for an end item, the contractor could implement the change under all the FFP PS contracts and receive 100% of the savings under those contracts and then submit a VECP under one of the concurrent cost contracts (or a FFP which requires approval of the change). This would increase his actual savings on the FFP contracts as compared with having all contracts covered by the VECP. The actual increase to the contractor would depend upon the sharing rate and should be slightly reduced by an "allowable" cost issue to be discussed later.

The reason for this result is that under the current VE clause the implementation of the VECP will not produce any savings for those contracts where the contractor has already implemented it.

2. FUNDING ISSUES

a. "ALLOWABLE" COSTS

FAR 52.248-1(b) specifically limits the contractor's compensation for development and implementation costs to those that are "allowable." Either directly (via contract clause) or indirectly (CAS and accepted practice), the standard for "allowable" can be found at FAR 31.201-2(a). One of the three requirements is that these costs be properly "allocated". (The other two are, in short, (1) otherwise proper for payment and (2) reasonable in amount.) If there are other contractor products or customers who benefit from the VECP, then those products/customers must pay their allocated share of the development and implementation costs. VECP negotiations by the Government need to address this "allocation" issue prior to calculating the savings to be shared.

b. NORMAL FUNDING RULES APPLY

Current emphasis on life cycle cost savings (versus production savings) raises a new twist to an old issue of funding development and implementation costs: "Who pays and how much?" Although the source of funds for "savings" paid to the contractor is not always the "instant" contract funds, the wording in the implementing regulations might seem to imply this. The proper source of funds (i.e., the party or account paying) must be determined based upon direct benefit received (e.g., different U.S. agencies, private industry, and foreign customers), and the amount to be paid by each party must be based upon percentage of direct benefit received by each party34. The purpose statute and bona fide needs rule determine the proper type and year of funds.

Simply stated, the established statutory rules for determining the proper source(s) and amount(s) for funding a given obligation are applicable to

34 See Attachment A.

VECPs, and no short cut (i.e., utilizing instant contract funds or the same appropriation) may be substituted for a formal analysis as to correct funding. The situation is relatively easy to analyze when all the benefiting parties are in the instant contract and the percentage of benefit (i.e., units left to be delivered in most cases) is known. When a VECP reduces collateral, concurrent or future costs to other appropriations (e.g., spares or operations and maintenance activities), a project manager may have trouble obtaining the proper funds to pay for those direct benefits. Those working this area must discuss individual fact situations with comptroller and legal advisors to determine proper funding.

Unfortunately for those who work VECP modifications, the correct analysis of the funding issues will probably create many more headaches than it will solve, although identifying these other funding sources may mean the difference between accepting or rejecting a given VECP.35

3. CONTRACT LANGUAGE

VECPs, like ECPs and many other change actions, frequently are generated by the preparation of detailed and historical documentation. Those documents are not written to the legal standards for contract language and contain a great deal more than just the change itself. Blindly incorporating this VECP or ECP documentation into a contract can create legal nightmares. You must take the essence of the required change out of this technical/historical documentation and rewrite it in proper contract language.36

C. HOW CAN IT BE FIXED IN ADVANCE?

By "in advance" I mean writing contract language such that the issue does not arise or, if it does arise, that a solution exists in the contract. The current AMCOM solution contains both specific and general provisions. For Government acquisition personnel there is a distinction between implementing the VE Clause and deviating from that clause. Deviations require special approvals37. In response to this issue it should be noted that an acceptable VECP is one that "…results in reducing the overall projected cost to the agency…."38 It may be argued that until these uncertainties concerning the timing issues

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35 See the discussion in Attachment B of FMS customers sharing the development and implementation costs.

36 See FAR 52.215-8, Order of Precedence Clause, and Air Compressor Products, Inc., 91-2 BCA 23,957, 22 April 1999, for more insight into this problem. As a last resort, the following qualification language might be used when urgency will not allow for drafting specific contract language:

> The VECP incorporated by this modification may contain documentation and background information prepared by contractor or Government personnel. Contractual approval of the VECP is limited to the actual change(s) necessary to implement this VECP. Unless otherwise expressly stated in this modification (other than the attached VECP), all statements concerning reasons for, need for, or effect of the VECP are merely the position of the individual author and are neither incorporated into this contract nor agreed to by the parties.

The solution is imperfect and should be avoided in favor of a clear statement in the modification of exactly what has been changed without unnecessary discussion or background.

37 See FAR 1.401 for the definition of a deviation and the agency supplements for the approval levels.
38 See 52.248-1(b).

are resolved by additional contract language, the VECP cannot be considered acceptable under this definition. Therefore, these proposed solutions may be properly considered advanced implementation agreements and not a deviation from the FAR clause.

The current AMCOM clause (Attachment C) attempts to address all issues raised to date with either a general or a specific solution.

MULTIPLE FUNDING SOURCES IN ONE CONTRACT

THEORY. The following principles are derived from statutory requirements (e.g., purpose statute, augmentation, *bona fide* need and the antideficiency act), regulations and Comptroller General decisions.[39]

- Unique Effort. Effort (supplies, services, R&D, etc.) which directly benefits a single party must be funded by an authorized funding source (i.e., IAW any statutory or administrative limitations on the funding documents) for that party and that purpose. If more than one unique effort is contained in a single contract, the effort and funding must be contractually "fenced" so that the commingling of neither effort nor funds is allowed contractually.

- Common Effort. When the effort directly benefits two or more parties, all who directly benefit must fund the effort. The funding ratio must equal the ratio of benefit received, as well as it can be determined under available guidance.[40] This ratio is not impacted by the availability of funds. A party may not legally receive any more direct benefit than that which the party funds. Again, each party's source of funding must be authorized for that party and that purpose.

-**Timing**. The correct funding of contracts is required at every instant in time. If at any
point in time the effort is funded with improper or insufficient funds, a

39 The issue of multiple funding sources is rarely covered in a direct discussion. See B-238024, 28 Jun 91, at 70 Comp. Gen. 592; and B-225860, 12 Feb 88, at 67 Comp. Gen. 254.

40 On rare occasions, a subject matter regulation may provide some guidance on how to determine the benefit ratio. However, since these are not financial regulations, the guidance must be compared to proper legal theories. Some prior specific guidance (previous versions of AR 700-90 on engineering services) has been eliminated. This may have been in recognition that no easy test exists. Even the prior test of AR 700-90, which used the number of production units, is inaccurate. An ECP cut into the production line may have only a partial benefit to an almost completed unit, may have full benefit to a yet to be built unit, and may have no benefit to an FMS unit. The only acceptable ratio is one based upon the actual benefits received. Once established and documented in writing, the ratio cannot change except for mistake in facts (careful with possible funding violations) or the addition/deletion of beneficiaries.

violation has occurred. Later "adjustments to the books" may cause the violation to cease but do not alter the fact that a violation has occurred. Such violations may represent anything from an internal controls problem to an antideficiency act violation.

The only exception is for common effort funded by two or more appropriations of the same agency. 31 USC 1534 allows for final adjustments prior to the close of the fiscal year in such cases.41

PROCEDURE. The simple, and only practical, method for assuring compliance with the above is to structure the contract such that the contractor is told: what effort is for what party; what funds (PRONS) are authorized for a given effort (including ratio, if applicable); and that only those funds identified as available for a given effort may be billed for that effort.42 This is not always as simple as it may appear. Effort for one party may be broken out into several CLINs (e.g., service, hardware and travel CLINS) with funding from other parties also under those same CLINS. The limitation of liability clauses (i.e., Limitation of Cost, Limitation of Funds, UCA and NTE Provisions) must be made applicable to each unique and each common effort, whether it be at the CLIN or SLIN level.

CAUTION. When these funding principles are contractually imposed, there can be no funding violations. If the contractor errs, the Government is entitled to recapture the funds until such time as a legal basis for payment (e.g., quantum meruit) and source of funds are identified. If the contract does not impose these principles on the contractor, the Government would be required to engage in extraordinary coordination and oversight of the contractor. Even then errors are much more likely. However, when the Government assumes this responsibility, violations cannot always be corrected.

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41 Matter of: Payment of U.S. Army Civilian Appellate Review Agency Investigative Travel and Per Diem, B-242199, 28 June 1991, 70 Comp. Gen. 601.
42 See FAR 32.1004(c) and DFARS 204.7104-1(b) for related regulatory policy.

THE ROLE OF FMS ACQUISITIONS IN THE ACCEPTANCE OF A VECP

A. TEST FOR ACCEPTING OR REJECTING A U.S. VECP.

There are several elements to the test for accepting or rejecting a VECP. The FMS unique aspects are discussed below.

TEST: "...results in reducing the overall projected cost to the agency...." (FAR 52.248-1(b))

"Agency" means DA/DOD and not the FMS customer. Each separate source of funds must pay its fair share of any effort based upon direct benefits received (See Attachment A.). There are specific statutory prohibitions on using U.S. funds to subsidize an FMS acquisition. Therefore, the VECP must represent an overall reduced cost to the U.S. in order to be accepted.43

"Projected cost" is not subject to the term "measurable" which applies only to collateral savings. The proper methods for projecting costs are addressed in various Government regulations and policies.

"Overall" is not specifically defined. It is, however, clearly broader than the terms "collateral savings" and "acquisition savings" combined. In certain regulations the term "life cycle costs" has been substituted.44 Additionally, the concept of avoidance of waste is mentioned in AMCR 70-8 as an objective of the VECP program.

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43 However, when the contract in question is for an FMS customer (as opposed to a U.S. buy), the roles discussed in this paper would probably be reversed, but the definitions are not well suited for that situation.
44 See AMCR 70-8 and MICOMR 11-21.

B. THE ROLE OF AN FMS ACQUISTION IN THE TEST FOR ACCEPTING A U.S.VECP.

While FMS savings are not directly relevant to a U.S. decision to accept or reject a VECP, the FMS acquisition can affect the decision indirectly. The existence of an FMS buy at the time of a VECP decision means that another party exists to share the development and implementation costs of that VECP. When an FMS acquisition pays a portion of the implementation costs, the point at which the US experiences a reduction in "overall projected costs" occurs sooner. The FMS sharing of those costs can make the difference between acceptance or rejection of the VECP.

This role of the FMS acquisition is not well discussed in any source. Eventually, policy changes may define the FMS savings as included within the overall reduction of cost to the agency. Certainly this seems reasonable where grants or FMS credits are being used. Also, FMS acquisitions are recognized as being for a U.S. national defense purpose, and the failure to consider the FMS factor can result in economic waste. However, until such time as clear guidance is provided to the contrary, the above limited FMS role is dictated by present language and funding rules.

In order to consider the FMS acquisition, even in the limited role of reducing implementation costs, there must be an executed Letter of Offer and Acceptance (LOA) with sufficient funds to cover the FMS customer's share of the implementation costs.45 Anything less than this could result in the U.S. improperly subsidizing the FMS buy or accepting a VECP which does not meet the FAR requirements for acceptance.

C. RECOMMENDATIONS/SUGGESTIONS.

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45 The FMS contribution to the development and implementation costs should be made when accepting the VECP. However, adjustments to the contract funds may be appropriate up to the time of contract closeout on a couple of theories: the LOA is a commitment to pay all costs of implementing the case; and if the VECP were acceptable even without the FMS buy sharing development and implementation costs, newly identified, directly benefiting parties should be required to contribute if the instant contract is not closed . It is doubtful that the FMS customer could be asked to pay retroactively (after closeout or completion of the contract) based upon current policy against assessing nonrecurring cost recoupments on FMS acquisitions.

The proper test is to consider only the indirect impact (reduction of the development and implementation costs) of signed LOAs on the overall reduction of projected agency costs. If the VECP is not acceptable based on timing problems (LOA not signed) or insufficient cost reductions, the following alternatives may be useful:

- Work with the contractor to delay the VECP decision until signed LOAs will produce a positive decision.

- Contractor could consider taking a present risk for a future benefit by lowering contractor development and implementation costs or agreeing to a NLT savings provision which assures that the Government breaks even. The contractor then has the opportunity to share in potential future savings such as FMS acquisitions.

- If the VECP is advantageous to the Government for reasons other than cost reductions, the Government might reject the changes as a VECP but incorporate it as an ECP. This would pay the contractor an equitable adjustment for the contractor's costs, but it would deny the contractor any share of savings.

ATTACHMENT C

CURRENT AMCOM SOLUTION

(19 APRIL 1999)

SECTION H-__. VALUE ENGINEERING (VE) COST SAVING CHANGES – [CONTRACTOR CONTROLLED PRODUCT BASELINE OR PERFORMANCE SPECIFICATION]:

A. THIS CONTRACT REQUIRES DELIVERY OF SUPPLIES AND SERVICES DEFINED BY THE [CONTRACTOR CONTROLLED PRODUCT DEFINITION DATA PACKAGE (PDDP) OR PERFORMANCE SPECIFICATION (PS)] AS REFLECTED IN PARAGRAPH ______ OF THE STATEMENT OF WORK. CHANGES MADE TO THE [PDDP OR PS] MAY BE MADE BY THE CONTRACTOR WITHOUT A CHANGE TO THE CONTRACT. HOWEVER, THE CONTRACTOR MAY SUBMIT

ANY COST SAVING CHANGES TO THE [PDDP OR PS] OR TO THIS CONTRACT UNDER FAR 52.248-1, VALUE ENGINEERING, AS SPECIFIED IN THIS CONTRACT INCLUDING FAR CLASS DEVIATION DAR 97-00005. CHANGES ARE NOT LIMITED TO THOSE AREAS GOVERNED BY FIRM CONTRACT REQUIREMENTS.

B. FOR VALUE ENGINEERING CHANGE PROPOSALS (VECPS) SUBMITTED PURSUANT TO SUBPARAGRAPH "A" THAT RESULT IN NEGATIVE INSTANT CONTRACT SAVINGS, AS DEFINED IN FAR 52.248-1, THE CONTRACTOR AGREES TO DEFER PAYMENT OF THE ALLOWABLE DEVELOPMENT AND IMPLEMENTATION COST WHICH IS IN EXCESS OF THE INSTANT CONTRACT SAVINGS ON AN ACCEPTED VECP. THE DEFERRED AMOUNT WILL BE PAID TO THE CONTRACTOR FROM CONCURRENT, COLLATERAL OR FUTURE SAVINGS, ONLY AS SUCH SAVINGS ARE REALIZED AND BEFORE ANY GOVERNMENT COSTS ARE OFFSET OR ANY SHARING OCCURS.

C. FOR ANY VECP SUBMITTED PURSUANT TO SUBPARAGRAPH "A", THE GOVERNMENT DOES NOT ANTICIPATE OFFERING LUMP SUM SETTLEMENT FOR FUTURE SAVINGS AS PROVIDED IN FAR 52.248-1(I)(4). ROYALTY PAYMENTS WILL BE MADE UNDER THE PROVISIONS OF FAR 52.248-1(I) AS FUTURE CONTRACTS ARE AWARDED, PROVIDED THE SUBJECT VECP AS APPROVED (OR IF SUBSEQUENTLY REVISED BY THE CONTRACTOR, THE CURRENT VERSION) IS UTILIZED IN PERFORMING THE FUTURE CONTRACT AND RESULTS IN THE ANTICIPATED SAVINGS.

D. FOR COST REIMBURSABLE CONTRACTS OR CLINS, THE PARTIES UNDERSTAND THAT CHANGES TO AREAS OF PERFORMANCE WHICH ARE NOT SPECIFICALLY CONTROLLED BY CONTRACT LANGUAGE (I.E., THE CONTRACTOR COULD IMPLEMENT OR DECLINE TO IMPLEMENT THE CHANGE WITHOUT GOVERNMENT APPROVAL) MAY REQUIRE THE NEGOTIATION OF ADDITIONAL AGREEMENTS PRIOR TO ACCEPTANCE.

E. IF THIS CONTRACT CONTAINS FAR 52.248-1, ALT II, THOSE AREAS OF PERFORMANCE WHICH ARE SUBJECT TO THAT CLAUSE WILL

BE DESCRIBED IN THE STATEMENT OF WORK FOR THE MANDATORY VE (I.E., ALT II) PROGRAM. ALL CHANGES WITHIN THE SCOPE OF THIS MANDATORY VE PROGRAM STATEMENT OF WORK SHALL BE SUBMITTED AS A VECP IAW FAR 52.248-1, ALT II. UNLESS FIRST REJECTED BY THE GOVERNMENT AS A VECP, A CHANGE SUBJECT TO THIS PARAGRAPH SHALL NOT BE OTHERWISE IMPLEMENTED BY THE CONTRACTOR. FOR THE PURPOSES OF THIS PARAGRAPH, A "CHANGE" IS DEFINED AS ANY VARIATION FROM THE CONTRACTOR'S STATED OR IMPLIED METHOD OF PERFORMANCE UPON WHICH AWARD OF THIS CONTRACT WAS BASED.

[OPTIONAL]

A CHANGE WHICH IS DOCUMENTED AS HAVING A POTENTIAL NET ACQUISITION SAVINGS OF LESS THAN $_______ IS EXCLUDED FROM THE PROVISIONS OF THIS PARAGRAPH. THE CONTRACTOR SHALL NOT FRAGMENT A CHANGE IF DOING SO WILL EXCLUDE ANY PART OF THE RESULTING CHANGES FROM THIS SUBPARAGRAPH.

F. THE GOVERNMENT SHALL HAVE THE RIGHT TO DESIGNATE WHICH CONTRACT WILL BE CONSIDERED THE "INSTANT CONTRACT" (UNDER WHICH THE VECP WILL BE ACCEPTED) WHENEVER THERE ARE CONCURRENT CONTRACTS AT THE TIME THE BASIS OF THE VECP WAS FIRST KNOWN OR FIRST IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR SHALL, WITH THE VECP SUBMISSION, ADVISE THE GOVERNMENT OF SUCH CONCURRENT CONTRACTS. THE GOVERNMENT'S RIGHT TO MAKE THIS ELECTION WILL TERMINATE ONLY UPON EXECUTION OF A MODIFICATION TO THE CONTRACT THAT SPECIFICALLY ADDRESSES THIS ELECTION ISSUE.

G. WITH ITS VECP SUBMISSION THE CONTRACTOR SHALL IDENTIFY ANY KNOWN CONTRACTOR PRODUCTS OR CUSTOMERS (WHETHER COMMERCIAL OR NONCOMMERCIAL) WHICH HAVE BENEFITED, OR WHICH MIGHT BENEFIT, FROM THE SUBJECT OF

THE SUBMITTED VECP. THE SUBMISSION SHALL ALSO ADDRESS HOW DEVELOPMENT AND IMPLEMENTATION COSTS HAVE BEEN ALLOCATED AMOUNG THESE PRODUCTS AND CUSTOMERS.

[The following are comments on the issue that each paragraph above was intended to address.

A – attempts to eliminate the false perception that VE applies only to end items or TDPs and to reinforce the broad nature of a "required" change.

B - addresses the timing issue for negative instant contract savings. Rather than paying now for something the contractor may not be required to deliver or which may change, we defer those payments which exceed current savings until additional savings are realized.

C – addresses a similar timing issue with regard to future savings.

A point which may warrant further analysis is whether the option to make a royalty payment versus a lump-sum payment exists for just future savings. What does the FAR clause allow? What does it prohibit? Where would that choice lead us?

D – keeps open the Government's option to reject a VECP in a cost contract when the VECP cannot be made a firm contract requirement and the risk to the Government is considered too great. It allows for a negotiated solution to be added with acceptance of the VECP.

E – addresses the problem with a mandatory VE clause in a PS situation. Because the potential changes funded by the Government under the mandatory program often may be implemented without Government approval, it is essential that all such changes be available for Government review. This allows the Government to ensure that the contractor does not implement such changes outside of the VE program. This increased Government oversight can be expensive and can disrupt the contractor's efficient management of the program. The contractor might have to delay implementing a change until he knows if the Government will keep a percentage of the savings. Loss of those extra savings might make the change too costly to implement. It is my recommendation that for PS acquisitions mandatory VE programs be limited to very specific and well defined areas. The optional language is another way to reduce Government oversight in nonproductive situations.

F – eliminates the contractor's discretion to time the use and disclosure of the change so as to maximize his savings and minimize the Government's. The nature of VE is a win-win situation which is best served by using the most appropriate contract as the instant contract and not the contract that is the most convenient for one party.

G – attempts to provide the Government additional information with which to address the "allocation" aspect of "allowable" costs.]

Remember, this change proposal shares the savings

by Joseph J. Petrillo

Performance based contracts, incentives and other types of so-called win-win arrangements between buyer and seller are becoming increasingly popular in federal contracting. When you get past the hoopla, however, you'll discover these innovations aren't really new.

For about 40 years, contractors have been invited to propose changes to the specifications and to share in the resulting savings. This value engineering technique is common in contracts but also commonly forgotten.

That's a shame. The outlines of a value engineering program describe a mutually beneficial deal. The contractor proposes a different way to do the work., with the objective of saving the government money. The clause calls this a value engineering change proposal, or a VECP. If the government accepts the idea, the contractor is paid a percentage of the savings.

The need for an incentive is obvious. Otherwise, why would the contractor take the time and effort to propose something that would reduce the contract price?

The government has complete discretion about whether to accept a VECP. What the government can't do, however, is reject the VECP and then use the idea anyway. This is called constructive acceptance, and it entitles the contractor to a share in savings.

The contractor's share depends on the type of contract. In most fixed-price contracts, the percentage is 50 percent of the savings. The savings eligible for sharing include those on the contract under which the VECP is accepted, other concurrent contracts and future contracts for a three year period. The contractor can also receive 20 percent of the savings on collateral items, such as government operations and maintenance costs, up to a ceiling of $100,000.

The essential requirement is having a contract with a VECP clause in it. Without that, a would-be contractor's suggestions are likely to be merely gratuitous.

Flex appeal

A recent decision by the Armed Service Board of Contract Appeals illustrates how flexible this program can be. In a case involving Sentra Health System [51540, Sept. 29, 2000], the contractor operated a network of primary care clinics. The government needed to report information in patient visits to a central computer database. It asked the contractor to propose a price for implementing its, the government's, home-grown system. This depended on doctor's filling out bubble sheets, which were then scanned and proofread.

That proved to be an expensive undertaking, mainly because physician time is very valuable. There were also problems with scanning the forms, probably stemming from the poor penmanship for which physicians are famous.

Instead, the contractor proposed to furnish the data from its database, in ASCII flat-file format. It framed its proposal as a formal VECP.

When the government ultimately balked at the high price of implementing its own system, it turned to the contractor's VECP, which it added to the contract by modification. But the agency refused to pay the contractor its share of the savings because the data reporting requirement had not been formally part of the contract.

The board rejected this narrow reading of the clause. Relying on a 1971 case about adding air conditioning to a new building at Cape Canaveral, Fla., the board held that the VECP was valid. When the government directed the contractor to prepare to report the patient visit data, the contractor was under the implied contractual obligation to provide the data. Its VECP related to this obligation, so the company was entitled to share in the resulting savings.

The board's decision avoids an unfortunate anomaly. If the government had prevailed, then the program would yield less benefit to both parties. The contractor would first have to implement the government's inefficient and costly method of performance—before submitting its VECP.

The solution the board decided on means that contractor's don't have to waste the government's money to get benefits of the VECPs.

Unfortunately, few VECPs are proposed and accepted. The architects of procurement reform should study why this is so when constructing their new incentive programs.

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HISTORY OF THE VALUE ENGINEERING CLAUSE

CHANGE	*DATE OF CHANGE*
ASPR Revision 45	April 1959
ASPR Revision 8	15 March 1962
ASPR Revision 13	31 December 1962
ASPR Revision 3	15 November 1963
ASPR Revision 4	March 1964
ASPR Revision 5	11 May 1964
ASPR Revision 6	1 July 1964
DPC 11	9 October 1964
DPC 19	30 November 1964
DPC 22	29 January 1965
DPC 26	8 April 1965
DPC 28	24 May 1965
DPC 36	21 October 1965
DPC 39	16 March 1966
ASPR Revision 23	1 June 1967
ASPR Revision 24	August 1967
DPC 55	28 September 1967
DPC 56	6 October 1967
DPC 64	28 October 1968
DPC 65	20 December 1968
ASPR Revision 3	30 June 1969
DPC 88	20 May 1971
ASPR edition of -	16 April 1973
DPC 121	10 May 1974
ASPR edition of -	1 July 1974
ASPR edition of -	1 October 1975
DPC 75-7	27 February 1976
ASPR edition of -	1 July 1976
DPC 76-7	29 April 1977
DPC 76-8	15 June 1977
DPC 76-9	30 August 1977
DPC 76-10	26 September 1977
DPC 76-12	28 October 1977
DPC 76-13	18 November 1977
DAC 76-26	15 December 1980
DAC 76-39	20 October 1982
FAR	1 April 1984
FAR	March 1989
Class Deviation to FAR (DAR 97-0001)	10 April 1997
FAR	1 October 1999
FAR	1 February 2000

CHAPTER E

VALUE ENGINEERING

SUPPLEMENTAL CASES & SOLUTIONS

THE LEHIGH COMPANY

BACKGROUND:
This case is included to provide some background into why only those who have current contracts with the Government (and which contracts contain a VECP clause) may submit VECP's. Furthermore, the VECP that is submitted must result in a change to the contract that they have with the Government. The rule is: "If you don't have a contract, you can't submit a VECP; furthermore, you can't submit a VECP for something that you don't have a contract for."

This interpretation has evolved over a period of time as the result of the Grismac case (USCC Dkt 4-72, 22 CCF, para 80,252, April 22, 1976 and USCC Dkt 4-72, 23 CCF, para 81,336, May 19, 1977). The chronology and a brief description is provided below. Those interested in the details of the case are invited to read the Court of Claims proceedings in the above references.

Spring 1969	Grismac has an idea and submits three different *unsolicited* proposals regarding the loading and storage of ammunition to the Army Ammunition Procurement & Supply Agency, Joliet, IL and to the Savanna Army Depot, Savanna, IL. *Grismac did not have a contract dealing with the object of these ideas - i.e., they did not have a contract for the loading and storage of ammunition.*
Summer 1969	Grismac's idea incorporated into Army specifications.
Fall 1969	Army requests authority from Army Munitions Command to negotiate with Grismac for compensation. No such authorization was received.
Spring 1970	Grismac bills Army for their share - estimated (by Grismac) to be $5,074,500!
Winter 1970	Army, after discussions with Grismac, counteroffered with $50,000 (talk about room to negotiate!) and the Contracting Officer issued a unilateral decision to that effect. That unilateral freed Grismac to file an appeal under the Disputes Clause.
Summer 1972	Grismac files suit in U. S. Court of Claims.

[As an aside, prior to this time, the ASPR did not address "unsolicited Value Engineering Change Proposals."

ASPR 1-1708 was added in May 1974 giving the Government authority to accept unsolicited VECP's. Due to ex *post facto,* the addition of the clause did not affect the Grismac case.]

April 1976	Trial Judge (from the Court of Claims) ruled that the Army's acceptance, implementation, and benefiting from the use of Grismac's idea had created an implied contract. Amount of recovery was to be determined by further proceedings. The Army, obviously didn't like that decision and requested a review by the full Court of Claims - which is a *panel* of judges.

May 1977 The Court of Claims rejected the Trial Judge's decision that the Army's use of Grismac's unsolicited proposal created an implied contract. The court found that there must be statutory authority to make an express contract before one can be implied. The court further ruled that the VECP was a "suggestion" and that there is no statutory authority for the Government to purchase "suggestions." Had Congress wished to reward "suggestions," it would have provided the legal means to do so. Further, the decision stated that "VECP's are cost reduction proposals offered to the Government *under existing express contracts* pursuant to ASPR." [Italics are in the original decision.]

[One more aside - because of this decision, the ASPR (now FAR) deleted, in August 1977, the paragraph permitting unsolicited VECP's. Even though the current clause and all clauses since that time) are silent on the issue, the decision still holds because of the doctrine of *stare decisis.]*

The upshot of all this legal wrangling is that a contractor must have an existing contract and that contract must contain a value engineering clause before they can submit a VECP and expect the Government to share savings with them. The general rule is: no contract, no VECP; no VECP, no savings share.

THE SCENARIO:

The Lehigh Company finds itself between Government contracts. That is, they do not currently hold a contract with any Federal agency. Lehigh personnel have been hard at work developing ideas that could possibly save the Government money and have just come up with an idea proposing a change to hawser covers used by the Navy. [A "hawser" is a nautical term for a heavy rope that is used for towing another vessel or that is used to moor a vessel to a pier or wharf. The hawser is usually coiled and stays on the deck, exposed to the elements. A hawser cover, then, is a cover for one of those ropes. The cover shields the rope from ultraviolet light which weakens it and also reduces the amount of water (both ocean spray and rainwater) that can saturate the hawser. That water would add a tremendous amount of weight to what is already a very heavy object.]

The hawser covers that the Navy buys are built to Navy specifications and call for heavy horsehide leather, stitched by hand, using very strong, waxed thread.

Lehigh, as a prominent producer of vinyl plastic items, believes that a hawser cover designed by them and using a reinforced vinyl material, machine stitched, would satisfy the basic function served by a hawser cover but at a much lower cost to the Navy.

QUESTIONS:

1. How does Lehigh go about submitting a VECP?

2. Could Lehigh submit an acceptable unsolicited cost reduction proposal?

3. What should the Navy do with any proposals submitted by Lehigh?

4. Assume Lehigh *did* have a contract with the Navy to supply hawser covers but that contract did not have a VE clause.

    a. What should the Navy do?

    b. What should Lehigh do?

    c. What if the Navy doesn't do what they should do - *then* what can Lehigh do?

LEHIGH SOLUTION

1. As the current clause has been interpreted by the Claims Court, Lehigh cannot submit a VECP to the Government. However, Lehigh might consider going to the contractor who *does* have a hawser cover contract with the Navy and proposing to share the idea with that contractor in return for any savings therefrom to be shared between Lehigh and the current contract holder. Lehigh would be a subcontractor submitting a VECP through the prime contractor. As we'll see in the Grus case, the prime-subcontractor contractual arrangement could be written such that the company that developed this great idea - Lehigh - could benefit handsomely.

2. Lehigh could submit an unsolicited cost reduction proposal *only* if all the criteria contained in FAR Subpart 15.5 were followed. They provide, basically, for consideration of unsolicited proposals if the following exist (FAR 15.503(c)(1) thru (5)):

   (c) A valid unsolicited proposal must- -

   (1) Be innovative and unique;
   (2) Be independently originated and developed by offer;
   (3) Be prepared without Government supervision;
   (4) Include sufficient detail to permit a determination that Government support could be worthwhile and the proposed work could benefit the agency's research and development or other mission responsibilities; and
   (5) Not be an advance proposal for a known agency requirement that can be acquired by competitive methods.

   Of course, the Navy (or any other agency) can be as loose as they want in interpreting just what constitutes "innovative and unique."

3. As the law currently stands, the Navy should return Lehigh's suggestion, thank them for making the suggestion and explain that there is no provision in Government contracting regulations for rewarding contractors - or citizens - for what the Court has determined to be "mere suggestions." If the contracting office is really anxious to incorporate this idea, it may suggest that Lehigh contact the current contract holder and attempt to negotiate a subcontractor-prime agreement.

4. a. Lehigh should request the PCO to add an appropriate clause to the contract.

   b. Of course, since this idea will likely save the Government money, the Navy *should* add the clause to the contract.

   c. If the PCO doesn't add the clause when requested, then Lehigh should appeal to the ACO to intercede. In some instances, the contractor has convinced the ACO to request a delegation from the PCO allowing the ACO to add the clause and even negotiate the VE settlement. Failing all the above - and fully realizing just what a can of worms is being recommended - the contractor might consider appealing to the PCO's superior or even to his or her Congressperson. A "Congressional" has a marvelous (as well as devastating) way to move things (and people) off dead center!

NORMA CORPORATION

SCENARIO:
Contrary to expectations, sophisticated weapon system acquisition has sharply increased the Defense Construction Supply Center's demand for nail kegs. To augment new buys, the Center has gone back to overhaul of reparable kegs in order to fill urgent requisitions. As negotiated in the time-and-materials contract with Norma Corporation, the charge per hour of labor has been set at $9.00. With a tentative agreement on labor application of 3.5 hours per unit and a probable input of 100,000 units, the labor total is $3,150,000. That, taken with the estimated direct material of $306,000, results in a billing price of $3,456,000. The Government price analyst has calculated a probable Norma profit of $456,000 in that billing price.

The Norma Corporation has prepared a labor-saving VECP for submission to DCSC. It has been estimated that, with timely acceptance, the VECP will reduce the labor per unit by 13 minutes, or 0.22 hours, per unit. The unit cost reduction is calculated to be $1.98 per unit; contractor costs for development and implementation are considered to be negligible; and Government costs amount to $20,000. The clause used in the contract is FAR 52.248-1 (MAR 1989)

QUESTIONS:
1. What is the contractor's share of savings on the instant contract?

2. What is the Government's share of savings on the instant contract?

3. Should there be any labor rate adjustment after the VECP's acceptance? (HINT: Before you answer this question, calculate what the labor rate should be by subtracting material cost from the adjusted contract price (leaving total labor price) and seeing if you can "tie back" to that labor cost by multiplying labor rate times the number of hours per unit (after the VECP) times the number of units. If that multiplication (labor rate times number of hours times number of units) doesn't tie back to the calculated labor price, take what the total labor price on the adjusted contract is as a given and use number of hours per unit (after VECP) and number of units as givens and *then* solve for a labor rate. *That* labor rate is what should be used in work performed under the VECP to assure the contractor receives their share of savings.)

THE APPLICABLE FAR CONTRACT CLAUSE

52.248-1 Value Engineering.

As prescribed in 48.201, insert the following clause in supply or service contracts to provide a value engineering incentive under the conditions specified in 48.201. In solicitations and contracts for items requiring an extended period for production (e.g., ship construction, major system acquisition), if agency procedures prescribe sharing of future contract savings on all units to be delivered under contracts awarded during the sharing period, the contracting officer shall modify subdivision (i)(3)(i) and the first sentence under subparagraph (3) of the definition of acquisition savings by substituting "under contracts awarded during the sharing period" for "during the sharing period." For engineering-development and low-rate-initial-production solicitations and contracts, the contracting officer shall modify subdivision (i)(3)(i) and the first sentence under subparagraph (3) of the definition of acquisition savings by substituting for "the number of future contract units scheduled for delivery during the sharing period," "a number equal to the quantity required over the highest 36 consecutive months of planned production, based on planning or production documentation at the time the VECP is accepted."

VALUE ENGINEERING (MAR 1989)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the incentive sharing rates in paragraph (f) below.

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include --

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units scheduled for delivery during the sharing period. If this contract is a multiyear contract, future contract savings include savings on quantities funded after VECP acceptance.

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If this is a multiyear contract, the term does not include quantities funded after VECP acceptance. If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract. If this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP.

"Sharing period," as used in this clause, means the period beginning with acceptance of the first unit incorporating the VECP and ending at the later of (1) 3 years after the first unit affected by the VECP is accepted or (2) the last scheduled delivery date of an item affected by the VECP under this contract's delivery schedule in effect at the time the VECP is accepted.

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.

"Value engineering change proposal (VECP)" means a proposal that --

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change --

(i) In deliverable end item quantities only;

(ii) In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or

(iii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) Government action.

(1) The Contracting Officer shall notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer shall notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP and the decision as to which of the sharing rates applies shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978 (41 U.S.C. 601-613).

(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon (1) this contract's type (fixed-price, incentive, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (incentive, program requirement, or a combination as delineated in the Schedule), and (3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

CONTRACTOR'S SHARE OF NET ACQUISITION SAVINGS

(figures in percent)

	Sharing Arrangement			
	Incentive (voluntary)		Program requirement (Mandatory)	
Contract Type	Instant Contract rate	Concurrent and future contract rate	Instant Contract rate	Concurrent and Future contract rate
Fixed-price (other than incentive)	50	50	25	25
Incentive (fixed-price or cost)	*	50	*	25
Cost-reimbursement (other than incentive)**	25	25	15	15

* Same sharing arrangement as the contract’s profit or fee adjustment formula.

** Includes cost-plus-award-fee contracts.

(g) Calculating net acquisition savings. (1) Acquisition savings are realized when (i) the cost or price is reduced on the instant contract, (ii) reductions are negotiated in concurrent contracts, (iii) future contracts are awarded, or (iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below). Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, Government costs and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.

(3) If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(4) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification issued as soon as possible after any negotiations are completed) shall --

(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive contract;

(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;

(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings; and

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts -- add to contract price.

(ii) Cost-reimbursement contracts -- add to contract fee.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. the Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period, (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-3 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(j) Collateral savings. If a VECP is accepted, the instant contract amount shall be increased, as specified in subparagraph (h)(5) above, by 20 percent of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed (1) the contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or (2) $100,000, whichever is greater. The Contracting Officer shall be the sole determiner of the amount of collateral savings, and that amount shall not be subject to the Disputes clause or otherwise subject to litigation under 41 U.S.C. 601-613.

(k) Relationship to other incentives. Only those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings or collateral savings.

(m) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering clause of contract -- -- -- -- , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government’s right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

NORMA SOLUTION

BACKGROUND:
The Norma case uses the clause at FAR 52.248-1 (MAR 1989), which is the standard FAR clause. The contract is a Time-and-Materials contract, which is not covered specifically in para (f), Sharing rates. The first issue to be resolved is what sharing arrangement should be applied - consider the contract as a cost-reimbursement contract or should we use the share rates associated with fixed-price contracts? An excellent argument could be made to consider a time-and-materials contract as a cost reimbursement contract as the contractor is being reimbursed for the material costs and for each hour of labor spent on performing the task specified in the contract. In fact FAR 15.905.1(b)(3) states that time and materials contracts are to be treated as a cost-plus-fixed-fee contract for weighted guidelines purposes. A time and materials contract is *NOT* so considered as far as value engineering is concerned and here's why. There are actually three separate arguments that can be made, none of which is overwhelmingly convincing. Taken together, however, they do present a fairly convincing argument. First, "fees" are associated with cost-reimbursement contracts and "profits" are the comparable returns to the contractor for the risks they assume in performing fixed price contracts. Given that profit is the term associated with fixed price contracts, let's look at the description in FAR 16.601(a) of a time-and-materials contract. That description states, "A time-and-materials contract provides for acquiring supplies or services on the basis of (1) direct labor hours at specified fixed hourly rates that include wages, overhead, general and administrative expenses, and PROFIT [emphasis supplied] and (2) materials at cost, including, if appropriate, material handling costs as part of material costs." Secondly, a rate for the labor has been agreed upon and that rate is fixed. The only thing that varies is the amount of time that the job takes. Well, let's go on to the third facet of the argument. Several Board and Court decisions involving Value Engineering have stated that the Value Engineering clause(s) should be interpreted "very liberally." That means, "in favor of the contractor" if there is not otherwise clear guidance to the contrary. To classify a time and materials contract as a fixed price-type contract means that the contractor receives a higher share than would be the case if we classified it as a cost reimbursement type contract. As stated previously, the totality of the three arguments lead one to the conclusion that a time and materials contract should be considered a fixed price contract for Value Engineering purposes.

The second problem deals with the hourly rate used to calculate the efforts under the VECP. Since profit is a part of the labor rate, if that labor rate is not adjusted, the contractor will not get the full amount of benefits that should accrue to them for submitting an acceptable VECP. The Norma case illustrates how that adjustment is made.

Given:
PRE-VECP

NUMBER UNITS		100,000
DIRECT LABOR COST PER UNIT (Includes Direct Labor OH, G&A, & Profit)		$9.00
DIRECT LABOR HOURS PER UNIT		3.5
TOTAL DIRECT LABOR COST ($9.00/hr X 3.5 hr/unit X 100,000 units)	$ 3,150,000	
DIRECT MATERIAL	306,000	
BILLING PRICE (Labor + Material)		$ 3,456,000
ASSUMED PROFIT		$ 456,000

VECP INFORMATION

UNIT COST REDUCTION	$ 1.98
UNIT LABOR REDUCTION (UCR)	0.22 hr
CONTRACTOR IMPLEMENTATION COST	Negligible
AGENCY (GOVERNMENT) COST	$ 20,000

1. a. COMPUTE NET ACQUISITION SAVINGS (NAS):

UCR x Units ($.198 X 100,000)	$ 198,000	(per para (b) (1))
Minus: Contractor costs	< -0- >	
Instant Contract Savings (ICS)	$ 198,000	
Minus: Government costs	< 20,000>	(per para (b))
Net Acquisition Savings (NAS)	$ 178,000	

b. COMPUTE CONTRACTOR SHARE OF SAVINGS

Net Acquisition Savings (NAS)	$ 178,000	(per paras (f) & (g) (2))
Times: Share Rate	X 0.50	
Contractor's share	$ 89,000	

2. COMPUTE GOVERNMENT SHARE OF SAVINGS:

Net Acquisition Savings (NAS)	$ 178,000	
Less: Contractor's share	< 89,000>	
Government share	$ 89,000	

3. WE NEED TO REVISE THE LABOR COST (the source of profit for the Contractor) AND VERIFY THOSE COSTS. TO DO THIS, WE MUST FIRST CALCULATE THE ADJUSTED CONTRACT PRICE:

Original Contract Price	$ 3,456,000	
Less: Instant Contract Savings	< 198,000>	
"Remainder"	$ 3,258,000	
Plus: Contractor's share of NAS	+ 89,000	(per para (h) (5) (ii))
Adjusted Contract Price	$ 3,347,000	
Less: Material (Unchanged by the VECP)	< 306,000>	

Adjusted Total Labor Cost $ 3,041,000 - and this is the figure we are going to have to match in the calculations below.

When we try to Verify the Adjusted Total Labor Cost, we find:

$9.00/hr X 3.28 hr/unit X 100,000 units = $ 2,952,000

Obviously, there is something amiss. To correct this, we must adjust the labor rate to support the Adjusted Labor Cost.

ADJUSTMENT OF LABOR RATE TO SUPPORT ADJUSTED LABOR COST:

$ 3,041,000 ÷ (3.28 hr/unit x 100,000 units) = $ 9.27134/hr

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Once again, we try to verify Adjusted Total Labor Cost:

$ 9.27134/hr X 3.28 hr/unit X 100,000 units = $ 3,041,000

Now, the numbers check and the revised labor rate of $ 9.27134/hour will result in the contractor being paid the $ 3,041,000 total labor due them under the contract after acceptance of the VECP!

Another way to see what is happening is to calculate the total number of hours projected to be used on the project after it is "VECP'd" and then divide that time into the Contractor's share of savings on the Instant Contract. Since the Contractor receives its share of savings in the form of increase profits, we can calculate how much needs to be added to the Labor Rate to account for the Contractor's increased profits from the VECP.

$$\frac{\text{Contractor's share of savings on the Instant Contract}}{\text{3.28 hours X 100,000 units}} = \frac{\$\ 89{,}000}{\text{328,000 hours}} = \$\ 0.27134\text{/hour}$$

When that $ 0.27134 is added to the $ 9.00 per hour we started with, you will find that it agrees with the number we calculated above.

THE ALTOONA CORPORATION

BACKGROUND:
This case is based on the last DAR clauses before the FAR was published. There is no significant differences between the two versions of the Value Engineering clause. The reason it is included in the supplemental cases is to show - using a familiar clause - how to read the almost incomprehensible DAR and also to provide an extensive review of how learning curves affect future savings. Other than these learning objectives, handle this case just as you have done all the FAR cases to date!

SCENARIO:
The Altoona Corporation was awarded a Firm Fixed Price (FFP) contract by an Air Force procuring activity. As had been outlined in the IFB, the contract included a Value Engineering clause (incentive).

The amount of the contract was established at $1,080,000. Altoona has submitted a VECP for which the unit cost reduction is calculated to be $1,000. The number of units to which the VECP will be applied is 100. Tentative agreement as to contractor costs of development and implementation has been reached at $20,000. Government costs that will result from implementing the VECP are expected to total $49,000 (including $4,000 to process the VECP).

The contract contained DAR clause 7-104.44, VALUE ENGINEERING (1982 OCT). [That was the last DAR clause to be used prior to implementation of the FAR. The clause, and DAR Part 17 (DAR equivalent of FAR Part 48) is attached for your reference.]

QUESTIONS:
1. What is the contractor's share of savings on the instant contract, given the above information?

2. What is the Government's share of savings on the instant contract?

3. How will the contract price be adjusted?

FURTHER SCENARIO:
It has now been established that a savings of $123,000 in Government-furnished property (GFP) will result, on the average, for each year the changed item is used.

FURTHER QUESTIONS:
4. What effect does the earlier Government cost of $45,000 have on the collateral share?

5. Is it important that the $123,000 is more than $100,000, the so-called collateral ceiling?

6. What is the contractor's paragraph (g) share, if any?

STILL MORE SCENARIO:
The production records reveal that the 100 units on the instant contract incorporated the VECP with a total savings of $100,000 (or $1,000 per unit). A second quantity of 100 units are covered by an option that is to be exercised. The second quantity of 100 units are scheduled for delivery within the sharing period and are predicted to show a savings of $61,466 (or $614.66 per unit). The savings prediction is based upon use of an 80% Unit-Linear learning curve, no break in production, and, of course, a continuation of the VECP implementation.

STILL MORE QUESTIONS:

7. How, if at all, are these savings to be handled?

8. After verifying that the contractor is telling us the truth (the Price Analyst in the office confirms that Altoona is operating on an 80% learning curve), what will be the contractor's share of these savings (if you determined in Question 1 that the contractor is entitled to some form of share)?

EVEN MORE SCENARIO:
The file copy DD 250 shows that the first unit of the instant contract did, in fact, incorporate the VECP but it was not accepted until June of 1988, even though it was scheduled to be delivered in May of that year. The VECP, incidentally, was accepted in April 1987. The delivery schedule for the instant contract spanned six months.

EVEN MORE QUESTIONS:

9. When does the sharing period end?

UNIT PROGRESS CURVE TABLE **UNIT PROGRESS CURVE TABLE**

	77%				77%		77%				77%	54A
	0	1	2	3	4		5	6	7	8	9	
50	.09600640	.09593410	.09586200	.09759010	.09571840	50	.09564690	.09557560	.09550440	.09543350	.09536280	50
51	.09529220	.09522190	.09515170	.09508170	.09501190	51	.09494230	.09487290	.09488370	.09473460	.09466570	51
52	.09459700	.09452850	.09446020	.09439210	.09432410	52	.09425630	.09418870	.09412130	.09405400	.09398690	52
53	.09392000	.09385330	.09378670	.09372040	.09365410	53	.09358810	.09352220	.09345650	.09399100	.09332560	53
54	.09326040	.09319540	.09313050	.09306580	.09300120	54	.09293680	.09287260	.09280860	.09274470	.09268090	54
55	.09261740	.09255390	.09249070	.09242760	.09236460	55	.09230190	.09223920	.09217670	.09211440	.09205220	55
56	.09199020	.09192840	.09186670	.09180510	.09174370	56	.09168240	.09162130	.09156030	.09149950	.09143890	56
57	.09137830	.09131800	.09125770	.09119760	.09113770	57	.09107790	.09101820	.09895870	.09089940	.09084010	57
58	.09078100	.09072210	.09066330	.09060460	.09054610	58	.09048770	.09042940	.09037130	.09031330	.09025550	58
59	.09019780	.09014020	.09008270	.09002540	.08996830	59	.08991120	.08985430	.08979750	.08974090	.08968430	59
60	.08962800	.08957170	.08951560	.08945960	.08940370	60	.08894790	.08929230	.08923680	.08918140	.08912620	60
61	.08907110	.08901610	.08896120	.08890640	.08885160	61	.08879730	.08874290	.08868870	.08863450	.08858050	61
62	.08852660	.08847280	.08841920	.08836560	.08831220	62	.08825890	.08820570	.08815260	.08809970	.08804680	62
63	.08799410	.08794150	.08788900	.08783660	.08778440	63	.08773220	.08768020	.08762820	.08757640	.08752470	63
64	.08747310	.08742170	.08737030	.08731900	.08726790	64	.08721680	.08716590	.08711510	.08706440	.08701370	64
65	.08696320	.08691290	.08686260	.08681240	.08676230	65	.08671230	.08666250	.08661270	.08656300	.08651350	65
66	.08646400	.08641470	.08636550	.08631630	.08626730	66	.08621830	.08616950	.08612080	.08607210	.08602360	66
67	.08597520	.08592680	.08587860	.08583040	.08578240	67	.08573450	.08568460	.08563890	.08858120	.08554370	67
68	.08597520	.08544880	.08540160	.08535440	.08530730	68	.08526040	.08521350	.08516670	.08512000	.08507340	68
69	.08502690	.08498040	.08493410	.08488790	.08484170	69	.08479570	.08474970	.08470390	.08465810	.08461240	69
70	.08456680	.08452130	.08447590	.08443050	.08438530	70	.08434010	.08429510	.08425010	.08420520	.08416048	70
71	.08411570	.08407110	.08402650	.08398210	.08393770	71	.08389340	.08384920	.08380510	.08376110	.08371710	71
72	.08367320	.08362050	.08358580	.08354220	.08349860	72	.08345520	.08341180	.08336850	.08332550	.08328220	72
73	.08323920	.08319620	.08315340	.08311060	.08306790	73	.08302520	.08298270	.08294020	.08289780	.08285550	73
74	.08281320	.08277110	.08272900	.08268700	.08264510	74	.08260320	.08256150	.08251980	.08247820	.08243660	74
75	.08239520	.08235380	.08231250	.08227120	.08223010	75	.08218900	.08214800	.08210700	.08206620	.08202540	75
76	.08198470	.08194400	.08190350	.08166300	.08182250	76	.08178220	.08174190	.08170170	.08166160	.08162150	76
77	.08158160	.08154160	.08150180	.08146200	.08142230	77	.08138270	.08134310	.08130360	.08126420	.08122490	77
78	.08118560	.08114640	.08110720	.08106820	.08102910	78	.08099020	.08095130	.08091250	.08087360	.08083510	78
79	.08079630	.08075800	.08071950	.08068110	.08064280	79	.08060460	.0856640	.08052820	.08049020	.08045220	79
80	.08041420	.08037640	.08033850	.08030080	.08026310	80	.08022550	.08018800	.08015050	.08011310	.08007570	80
81	.08003840	.08000120	.07996400	.07992690	.07988990	81	.07985290	*.07981600*	.07977920	.07974240	.07970560	81
82	.07966900	.07963240	.07959580	.07955930	.07952290	82	.07948660	.07945030	.07941400	.07937780	.07934170	82
83	.07930570	.07926970	.07923370	.07919790	.07916200	83	.07912630	.07909060	.07905490	.07901930	.07898380	83
84	.07894830	.07891290	.07887760	.07884230	.07880710	84	.07877190	.07873670	.07870170	.07866670	.07863170	84
85	.07859680	.07856200	.07852720	.07849250	.07845780	85	.07842320	.07838860	.07835410	.07831970	.07828530	85
86	.07825100	.07821670	.07818250	.07814830	.07811420	86	.07808010	.07804610	.07801210	.07797820	.07794440	86
87	.07791060	.07787690	.07784320	.07760950	.07777590	87	.07774240	.07770890	.07767550	.07764220	.07760880	87
88	.07757560	.07754240	.07750920	.07747610	.07744300	88	.07741000	.07737710	.07734410	.07731130	.07727850	88
89	.07724570	.07721300	.07718040	.07714780	.07711520	89	.07708270	.07705030	.07701790	.07698550	.07695320	89
90	.07692100	.07688880	.07685660	.07682450	.07679250	90	.07676050	.07672850	.07669640	.07666470	.07663290	90
91	.07660120	.07656940	.07653780	.07650610	.07647460	91	.07644300	.07641160	.07638010	.07634880	.07631740	91
92	.07628610	.07625490	.07622370	.07619250	.07616140	92	.07613040	.07609940	.07606840	.07603750	.07600660	92
93	.07597580	.07594500	.07591430	.07588380	.07585290	93	.07582230	.07579180	.07576130	.07573080	.07570040	93
94	.07567000	.07563970	.07560940	.07557910	.07554890	94	.07551880	.07548870	.07545860	.07542860	.07539660	94
95	.07536870	.07533880	.07530890	.07527910	.07524930	95	.07521960	.07518990	.07516030	.07513070	.07510120	95
96	.07507170	.07504220	.07501280	.07498340	.07495410	96	.07492480	.07469550	.07486630	.07483710	.07480800	96
97	.07477890	.07474960	.07472080	.07469100	.07466290	97	.07463410	.07460520	.07457640	.07454770	.07451890	97
98	.07449030	.07446160	.07443300	.07440440	.07437590	98	.07434740	.07431900	.07429060	.07426220	.07623390	98
99	.07420560	.07417740	.07414920	.07412100	.07409290	99	.07406480	.07403680	.07400870	.07398080	*.07395280*	99

CUMULATIVE PROGRESS CURVE TABLE

CUMULATIVE PROGRESS CURVE TABLE

	77%				77%		77%				77%	54B
	0	1	2	3	4		5	6	7	8	9	
50	76.03308650	76.12902060	76.22488260	76.32067270	76.41639110	50	76.51203800	76.60761360	76.70311800	76.79855150	76.89391430	50
51	76.98920650	77.08442840	77.17958010	77.27466180	77.36967370	51	77.46461600	77.55948890	77.65429260	77.74902720	77.84369290	51
52	77.93828990	78.03281840	78.12727860	76.22167070	78.31599480	52	78.41025110	78.50443980	78.59856110	78.69261510	78.78660200	52
53	78.88052200	78.97437530	79.06816200	79.16188240	79.25553650	53	79.34912460	79.44264680	79.53610330	79.62949430	79.72281990	53
54	79.81608030	79.90927570	80.00240620	80.09547200	80.18847320	54	80.28141000	80.37428260	80.46709120	80.55983590	80.65251680	54
55	80.74513420	80.83768810	80.93017880	81.02260640	81.11497100	55	81.20727290	81.29951210	81.39168880	81.48380320	81.57585540	55
56	81.66784560	81.75977400	81.85164070	81.94344580	82.03518950	56	82.12687190	82.21849320	82.31005350	82.40155300	82.49299190	56
57	82.58437020	82.67568820	82.76694590	82.85814350	82.94928120	57	83.04035910	83.13137730	83.22233600	83.31323540	83.40407550	57
58	83.49485650	83.58557860	83.67624190	83.76684650	83.85739260	58	83.94788030	84.03830970	84.12868100	84.21899430	84.30924980	58
59	84.39944760	84.48958780	84.57987050	84.66969590	84.75966420	59	84.84957540	84.93942970	85.02922720	85.11896810	85.20865240	59
60	85.29828040	85.38785210	85.47736770	85.56682730	85.65623100	60	85.74557890	85.83487120	85.92410800	86.01328940	86.10241560	60
61	86.19148670	86.28050280	86.36946400	86.45837040	86.54722220	61	86.63601950	86.72476240	86.81345110	86.90208560	86.99066610	61
62	87.07919270	87.16766550	87.25608470	87.34445030	87.43276250	62	87.52102140	87.60922710	87.69737970	87.78547940	87.87352620	62
63	87.96152030	88.04946180	88.13735080	88.22518740	88.31296550	63	88.40070400	88.48838420	88.57601240	88.66358880	88.75111350	63
64	88.83858660	88.92600830	89.01337860	89.10069760	89.18796550	64	89.27518230	89.36234820	89.44946330	89.53652770	89.62354140	64
65	89.71050460	89.79741750	89.88428010	89.97109250	90.05785480	65	90.14456710	90.23122960	90.31784230	90.40440530	90.49091880	65
66	90.57738280	90.66379750	90.75016300	90.83647930	90.92274660	66	91.00896490	91.09513440	91.18125520	91.26732730	91.35335090	66
67	91.43932610	91.52525290	91.61113150	91.69696190	91.78274430	67	91.86847880	91.95416540	92.03980430	92.12539550	92.21093920	67
68	92.29643540	92.38188420	92.46728580	92.55264020	92.63794750	68	92.72320790	92.80842140	92.89358810	92.97870810	93.06378150	68
69	93.14880840	93.23378880	93.31872290	93.40361080	93.48845250	69	93.57324820	93.65799790	93.74270180	93.82735990	93.91197230	69
70	93.99653910	94.08106040	94.16553630	94.24996680	94.33435210	70	94.41869220	94.50298730	94.58723740	94.67144260	94.75560300	70
71	94.83971870	94.92378980	95.00781630	95.09179840	95.17573610	71	95.25962950	95.34347870	95.42728380	95.51104490	95.59476200	71
72	95.67843520	95.76206470	95.84565050	95.92919270	96.01269130	72	96.09614650	96.17955830	96.26292680	96.34625210	96.42953430	72
73	96.51277350	96.59598970	96.67912310	96.76223370	96.84530160	73	96.92832680	97.01130950	97.09424970	97.17714750	97.26000300	73
74	97.34281620	91.42558730	97.50831630	97.59100330	97.69364840	74	97.75625160	97.83881310	97.92133290	98.00381110	98.08624770	74
75	98.16864290	98.25099670	98.33330920	98.41558040	98.49781050	75	98.57999950	98.66214750	98.74425450	98.82632070	98.90834610	75
76	98.99033080	99.07227480	99.15417830	99.23604130	99.31786380	76	99.39964600	99.48138790	99.56308960	99.64475120	99.72637270	76
77	99.80795430	99.88949590	99.97099770	100.05245970	100.13388200	77	100.21526470	100.29660780	100.37791140	100.45917560	100.54040050	77
78	100.62158610	100.70273250	100.78383970	100.86490790	100.94593700	78	101.02692720	101.10787850	101.18879100	101.26966480	101.35049990	78
79	101.43129640	101.51205440	101.59277390	101.67345500	101.75409780	79	101.83470240	101.91526880	101.99579700	102.07628720	102.15673940	79
80	102.23715360	102.31753000	102.39786850	102.47816930	102.55843240	80	102.63865790	102.71884590	102.79899640	102.87910950	102.95918520	80
81	103.03922360	103.11922480	103.19918880	103.27911570	103.35900560	81	103.43885850	103.51867450	103.59845370	103.87819610	103.75790170	81
82	103.83757070	103.91720310	103.99679890	104.07635820	104.15588110	82	104.23536770	104.31481800	104.39423200	104.47360980	104.55295150	82
83	104.63225720	104.71152690	104.79076060	104.86995850	104.94912050	83	105.02824680	105.10733740	105.18639230	105.26541160	105.34439540	83
84	105.42334370	105.50225660	105.58113420	105.65997650	105.73878360	84	105.81755550	105.89629220	105.97499390	106.05366060	106.13229230	84
85	106.21088910	106.28945110	106.36767830	106.44647080	106.08688920	85	106.60335180	106.68174040	106.76009450	106.83841420	106.91669950	85
86	106.99495050	107.07316720	107.15134970	107.22949800	107.30761220	86	107.38569230	107.46373840	107.54175050	107.81972870	107.69767310	86
87	107.77558370	107.85346060	107.93130380	108.00911330	108.08688920	87	108.16463160	108.24234050	108.32001600	108.39765820	108.47526700	87
88	108.55284260	108.63038500	108.70789420	108.78537030	108.86281330	88	108.94022330	109.01760040	109.09494450	109.17225580	109.24953430	88
89	109.32678000	109.40399300	109.48117340	109.55832120	109.63543640	89	109.71251910	109.78956940	109.86658730	109.94357280	110.02052600	89
90	110.09744700	110.17433560	110.25119240	110.32801690	110.40480940	90	110.48156987	110.55829840	110.63499500	110.71165970	110.78829260	90
91	110.86489380	110.94146320	111.01800100	111.09450710	111.17098170	91	111.24742470	111.32383630	111.40021640	111.47656520	111.55288260	91
92	111.62916870	111.70542360	111.78164730	111.85783980	111.93400120	92	112.01013160	112.08623100	112.16229940	112.23833690	112.31434350	92
93	112.39031930	112.46626430	112.54217860	112.61806220	112.69391510	93	112.76973740	112.84552920	112.92129050	112.99702130	113.07272170	93
94	113.14839170	113.22403140	113.29964080	113.67521990	113.45076860	94	113.52828760	113.60177630	113.67723490	113.75266350	113.82806210	94
95	113.90343080	113.07876960	114.05407850	114.12935760	114.20460690	95	114.27982650	114.35501640	114.46017670	114.50530740	114.58040860	95
96	114.65548030	114.73052250	114.80553530	114.88051870	114.95547280	96	115.03039760	115.10529310	115.18015940	115.25499650	115.32980450	96
97	115.40458340	115.47933320	115.55405400	115.62874590	115.70940880	97	115.77804290	115.85264810	115.92722450	116.00177220	116.07629110	97
98	116.15078140	116.22524300	116.29967600	116.37408040	116.44845630	98	116.55280370	116.59712270	116.67141330	116.74567550	116.81990940	98
99	116.89411500	116.96829240	117.04244160	117.11656260	117.19065550	99	117.26472030	117.33875710	117.41276580	117.48674660	117.56069940	99

UNIT PROGRESS CURVE TABLE **UNIT PROGRESS CURVE TABLE**

	77% 0	1	2	3	77% 4		77% 5	6	7	8	77% 9	53A
		1.00000000	.77000000	.66083400	.59290000		.54545400	.50884200	.48010800	.45653300	.43670100	
1	*.41969200*	.40487600	.39180800	.38015800	.36968300	1	.36019000	.35153000	.34358600	.33626000	.32947400	1
2	.32316300	.31727200	.31175500	.30657300	.30168200	2	.29708400	.29272300	.28858700	.28465600	.28091400	2
3	.27734600	.27393800	.27067800	.26755600	.26456100	3	.26168500	.25892000	.25625900	.25369500	.25122200	3
4	.24883500	.24652900	.24429900	.24214100	.24005100	4	.23802600	.23606100	.23415500	.23230300	.23050400	4
5	.22875500	.22705300	.22539700	.22378300	.22221200	5	.22068000	.21918500	.21772700	.21630400	.21491400	5
6	.21355700	.21223000	.21093200	.20966400	.20842200	6	.20720700	.20601800	.20485300	.20371200	.20259400	6
7	.20149700	.20042300	.19936800	.19853400	.19731900	7	.19632300	.18534500	.19438400	.19344100	.19251400	7
8	.19160300	.19070800	.18982700	.18896200	.18811000	8	.18727300	.18644900	.18563800	.18483900	.18405400	8
9	.18328000	.18251800	.18176700	.18102800	.18029900	9	.17958100	.17887300	.17817600	.17748800	.17681000	9
10	*.17614100*	.17458100	.17483100	.17418900	.17355500	10	.17283000	.17231300	.17170400	.17110300	.17050900	10
11	.16992300	.16934400	.16877300	.16820800	.16765000	11	.16709800	.16655400	.16691600	.16548400	.16495800	11
12	.16443900	.16392500	.16341700	.16291500	.16241800	12	.16192700	.16144100	.16096100	.16048500	.16001500	12
13	.15855000	.15908900	.15863400	.15818300	.15773700	13	.15729500	.15685800	.15642500	.15599700	.15957300	13
14	.15515300	.15473700	.15432500	.15391800	.15351400	14	.15311400	.15271700	.15232500	.15193600	.15155100	14
15	.15116900	.15079000	.15041600	.15004400	.14967600	15	.14831100	.14895000	.14859100	.14823600	.14788400	15
16	.14753400	.14718800	.14684500	.14450500	.14616700	16	.14583200	.14550100	.14517100	.14484500	.14452100	16
17	.14420000	.14388100	.14356500	.14325200	.14294100	17	.14263200	.14232600	.14202300	.14172100	.14142200	17
18	.14112500	.14083100	.14053900	.14024900	.13996100	18	.13967500	.13939100	.13911000	.13883000	.13855300	18
19	.13827700	.13800400	.13773200	.13746300	.13719500	19	.13693000	.13666600	.13640400	.13614400	13588500	19
20	.13562900	.13537400	.13512100	.13486900	.13462000	20	.13437200	.13412500	.13388100	.13363800	.13339600	20
21	.13315600	.13291800	.13268100	.13244600	.13221200	21	.13198000	.13174900	.13152000	.13129200	.13106600	21
22	.13084100	.13061700	.13039500	.13017400	.12995500	22	.12973700	.12952000	.12930500	.12909100	.12887800	22
23	.12866600	.12845600	.12824700	.12803900	.12783200	23	.12762700	.12742300	.12722000	.12701800	.12681700	23
24	.12661800	.12641900	.12622200	.12602600	.12583100	24	.12563700	.12544400	.12525300	.12506200	.12487200	24
25	.12468400	.12449600	.12431000	.12412400	.12394000	25	.12375600	.12357400	.12339200	.12321200	.12303200	25
26	.12285300	.12267600	.12248900	.12232300	.12214800	26	.12197400	.12180100	.12162900	.12145700	.12128700	26
27	.12111700	.12094900	.12078100	.12061400	.12044800	27	.12026200	.12011800	.11995400	.11879100	.11962900	27
28	.11946800	.11930700	.11814800	.11898900	.11883100	28	.11867300	.11851700	.11836100	.11820600	.11805100	28
29	.11789700	.11774500	.11759200	.11744100	.11729000	29	.11714000	.11699100	.11684200	.11669400	.11654700	29
30	.11640000	.11625400	.11610900	.11596400	.15582800	30	.11567700	.11553400	.11539200	.11525100	.11511000	30
31	.11497000	.11483000	.11469100	.11455300	.11441500	31	.11427800	.11414200	.11400600	.11387000	.11373600	31
32	.11360100	.11346800	.11333500	.11320200	.11307100	32	.11293900	.11280900	.11267800	.11254900	.11247000	32
33	.11229100	.11216300	.11203500	.11190800	.11178200	33	.11165600	.11153100	.11140600	.11128100	.11115700	33
34	.11103400	.11091100	.11078900	.11068700	.11054500	34	.11042500	.11030400	.11018400	.11006500	.10994600	34
35	.10982700	.10970900	.10959100	.10947400	.10935700	35	.10924100	.10912500	.10901000	.10889500	.10878100	35
36	.10866700	.10855300	.10844000	.10832700	.10821500	36	.10810300	.10799100	.10788000	.10777000	.10765900	36
37	.10755000	.10744000	.10733100	.10722300	.10711400	37	.10700700	.10689800	.10679200	.10668600	.10657900	37
38	.10647400	.10636800	.10626300	.10615800	.10605400	38	.10595000	.10584600	.10574300	.10564000	.10553800	38
39	.10543600	.10533400	.10523300	.10513200	.10503100	39	.10493100	.10483100	.10473100	.10463200	.10453300	39
40	.10443400	.10433600	.10423800	.10414000	.10404300	40	.10394600	.10384900	.10375300	.10365700	.10356200	40
41	.10346600	.10337100	.10327700	.10318200	.10308800	41	.10299400	.10290100	.10280800	.10271500	.10262300	41
42	.10253000	.10243800	.10234700	.10225600	.10216500	42	.10287400	.10198300	.10189300	.10180300	.10171400	42
43	.10162500	.10153600	.10144700	.10135900	.10127000	43	.10118300	.10109500	.10100800	.10092100	.10083400	43
44	.10074700	.10066100	.10057500	.10049000	.10040400	44	.10031900	.10023400	.10015000	.10006500	.09998120	44
45	.09989740	.09981380	.09975050	.09964740	.09956460	45	.09948200	.09939970	.09951760	.09923560	.09915420	45
46	.09907290	.09899180	.09891100	.09863030	.09875000	46	.09866980	.09859000	.09851030	.09843090	.09835170	46
47	.09827270	.09819400	.09811550	.09803720	.09795920	47	.09788140	.09780380	.09772640	.09764030	.09757240	47
48	.09749570	.09741920	.09734290	.09726690	.09719110	48	.09711540	.09704000	.09696490	.09688990	.09681510	48
49	.09674060	.09666620	.09656210	.09651820	.09644450	49	.09637100	.09629760	.09622450	.09615160	.09607890	49

CUMULATIVE PROGRESS CURVE TABLE

CUMULATIVE PROGRESS CURVE TABLE

	80%				80%		80%				80%	59B
	0	1	2	3	4		5	6	7	8	9	
		1.00000000	1.80000000	2.50210400	3.14210400		3.73774100	4.29942400	4.83392400	5.34592400	5.83887400	
1	6.31538400	6.77749500	7.22684100	7.66475700	8.09234900	1	8.51054800	8.920145800	9.32183100	9.32183100	10.10374600	50
2	10.48495400	10.86022100	11.22991000	11.59434600	11.95382300	2	12.30860700	12.65893900	13.00504100	13.00504100	13.68534500	51
3	14.01990400	14.35059000	14.67863000	15.00308000	15.32442700	3	15.64278900	15.95827700	16.27099400	16.27099400	16.88850000	52
4	17.19346600	17.49601800	17.79623200	18.09478000	18.38993100	4	18.68355000	18.97509900	19.26463600	19.55221800	19.83789700	53
												54
5	20.12172400	20.40374700	20.68401300	20.96256600	21.23944700	5	21.51469800	21.78835700	22.06046100	22.33104600	22.60014600	55
6	22.86779300	23.13402000	23.39885700	23.66233300	23.92447700	6	24.18531600	24.44487600	24.70318200	24.96025900	25.21613100	56
7	25.47082100	25.72435000	25.97674000	26.22801200	26.47818600	7	26.72728100	26.97531600	27.22231000	27.46828000	27.71324300	57
8	27.95721600	28.20021500	28.44225600	28.68335500	28.92352600	8	29.16278400	29.40114200	29.63861500	29.87521600	30.11095800	58
9	30.34585300	30.57991400	30.81315300	31.04558500	31.27721200	9	31.50805400	31.73811900	31.96741800	32.19596100	32.42375900	59
10	32.65082100	32.87715600	33.10277500	33.32768600	33.55189900	10	33.77542200	33.99826400	34.22043300	34.44193800	34.66278700	60
11	34.88298000	35.10254800	35.32147500	35.53977600	35.75745900	11	35.97453100	36.19099900	36.40686900	36.62214900	36.83684500	61
12	37.05096300	37.26451000	37.47748200	37.68991500	37.90178500	12	38.11310800	38.32388900	38.53413400	38.74684900	38.95303900	62
13	39.16171000	39.36986700	39.57751500	39.78465900	39.99730400	13	40.19745500	40.40311700	40.60829400	40.81299200	41.01721400	63
14	41.22096600	41.42425100	41.62707400	41.82944000	42.03135200	14	42.23281500	42.43383300	42.63440900	42.83454800	43.03425400	64
15	43.23353000	43.43238000	43.63080800	43.82881800	44.02641300	15	44.22359700	44.42037300	44.61671100	44.81271400	45.00828700	65
16	45.20346500	45.39525200	45.59265100	45.78666600	45.98029900	16	46.17355400	46.36643300	46.55893900	46.75107600	46.94284600	66
17	47.13425200	47.32529700	47.51598400	47.70631500	47.89629300	17	48.08592100	48.27520200	48.46413800	48.65273100	48.84098500	67
18	49.02890100	49.21648200	49.40373100	49.59065000	49.77724100	18	49.96350700	50.14945000	50.33507200	50.52037600	50.70536400	68
19	50.89003800	51.07440000	51.25845200	51.44249700	51.62563600	19	51.80877200	51.99160700	52.17414200	52.35638000	52.53832300	69
20	52.71997200	52.90133000	53.08239800	53.26317900	53.44367400	20	53.62388500	53.80381400	53.98346300	54.16283300	54.34195600	70
21	54.52074400	54.69928900	54.87756300	55.05556700	55.23330300	21	55.41077200	55.58797600	55.76491700	55.94159600	56.11801500	71
22	56.29417500	56.47007800	56.64572600	56.82112000	56.99626200	22	57.17115300	57.34579400	57.52018700	57.69433300	57.86823400	72
23	58.04189100	58.21530600	58.38848000	58.56141400	58.73411000	23	58.90656900	59.07879300	59.25078200	59.42253800	59.59406300	73
24	59.76535700	59.93642200	60.10725900	60.27787000	60.44825500	24	60.61841600	60.78835400	60.95801000	61.12756600	61.29684200	74
25	61.46590000	61.63474100	61.80336600	61.97177600	62.13997200	25	62.30795600	62.47572800	62.64329000	62.81064200	62.97778600	75
26	63.14472300	63.31145400	63.47798000	63.64430100	63.81041900	26	63.97633500	64.14205000	64.30756500	64.47288100	64.63799900	76
27	64.80202000	64.96764500	65.13217500	65.29651000	65.46065200	27	65.62460200	65.78836000	65.95192800	66.11530600	66.27849500	77
28	66.44149600	66.60431000	66.76692800	66.92938100	67.09164000	28	67.25371500	67.41560800	67.57731900	67.73884900	67.90019900	78
29	68.06136900	68.22236100	68.38317500	68.54381200	68.70427300	29	68.86455900	69.02467000	69.18460700	69.34437200	69.50396400	79
30	69.66338500	69.82263500	69.98171500	70.14062600	70.29936900	30	70.45794400	70.61635200	70.77459300	70.93266900	71.09058000	80
31	71.24832700	71.40591000	71.56333100	71.72059000	71.87768700	31	72.03462300	72.19139900	72.34801600	72.50447400	72.66077400	81
32	72.81691700	72.97290300	73.12873300	73.28440700	73.43992700	32	73.59529200	73.75050400	73.90556300	74.06046900	74.21522400	82
33	74.36982800	74.52428100	74.67858400	74.83273800	74.98674300	33	75.14060000	75.29430900	75.44787100	75.60128700	75.75453700	83
34	75.90768200	76.06066200	76.21349800	76.36619000	76.51873900	34	76.67114600	76.82341100	76.97553500	77.12751800	77.27936000	84
35	77.43106300	77.58262600	77.73405100	77.88533700	78.03648600	35	78.18749700	78.33837200	78.48911100	78.63971400	78.79018200	85
36	78.94051500	79.09071400	79.24077900	79.39071100	79.34051000	36	79.69017700	79.83971200	79.98911600	80.13838900	80.28753200	86
37	80.43654500	80.58542800	80.73418200	80.88280800	81.03130600	37	81.17967600	81.32791900	81.47603500	81.62402500	81.77188900	87
38	81.91963800	82.06724200	82.21473200	82.36209700	82.50933900	38	82.65645800	82.80345400	82.95032700	83.09707800	83.24370800	88
39	83.39021700	83.53660500	83.68287300	83.82902100	83.97502900	39	84.12095800	84.26674800	84.41242000	84.55797400	84.70341100	89
40	84.84873000	84.99395300	85.13581900	85.28338000	85.42534400	40	85.57358300	85.71820800	85.74820800	86.00711400	86.15139600	90
41	86.29556500	86.43962100	86.58356400	86.72739500	86.87111400	41	87.01472100	87.15821700	87.15821700	87.44487700	87.58804200	91
42	87.76109700	87.87404200	88.01687800	88.15960500	88.30222400	42	88.44473500	88.58713800	88.58713600	88.87162200	89.01370400	92
43	89.15557900	89.29754800	89.43031100	89.58096900	89.72252200	43	89.86397000	90.14655200	90.00531300	90.28768700	90.42871900	93
44	90.56964700	90.41047500	90.85119500	90.99181500	91.13233300	44	91.27275000	91.41306500	91.41306500	91.69339200	91.83340500	94
45	91.97331700	92.11313000	92.25284300	92.39245600	92.53197000	45	92.67138600	92.81070300	92.94992200	93.08904300	93.22806600	95
46	93.36699200	93.50582100	93.64455300	93.78318900	93.92172800	46	94.06017100	94.19851900	94.33677100	94.47492800	94.61299000	96
47	94.75095700	94.88883000	95.02660900	95.16429400	95.30188600	47	95.43938400	95.57678900	95.71410100	95.85132100	95.98844900	97
48	96.12548500	96.26242900	96.39958100	96.53504200	96.67271200	48	96.80929100	96.94578000	97.08217800	97.21848600	97.35470400	98
49	97.49083300	97.62687300	97.76282400	97.89868600	98.03445900	49	98.17074400	98.30574100	98.44125000	98.57667100	98.71200500	99

THE APPLICABLE DAR CITE
DAR Part 17

GENERAL PROVISIONS

Part 17 - Value Engineering

1-1700 Value Engineering (VE).

1-1701 Definitions.

(a). Acquisition savings means savings resulting from the application of value engineering change proposals (VECPs) to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include:

(i) Instant contract savings which are the net cost reductions on the contract under which the VECP was submitted and accepted and which are equal to the unit cost reduction multiplied by the number of units affected by the VECP, less the contractor's allowable development and implementation costs (on service contracts, the unit cost reduction is multiplied by the labor-hour rate agreed upon for the tasks involved; then the contractor's allowable development and implementation costs are subtracted from the total);

(ii) Concurrent contract savings, which are measurable net reductions in the prices of other contracts of the contracting office in existence at the time the VECP was accepted; and

(iii) Future contract savings, which are the product of the unit cost reduction under the instant contract, adjusted to consider the effects of learning, quantities, or other similar factors, multiplied by the number of units scheduled for delivery during the sharing period. If the instant contract is a Multi-year contract, future contract savings include savings on all quantities funded after VECP acceptance.

(b). Collateral costs means agency costs of operation, maintenance, logistic support, or Government-furnished property.

(c). Collateral savings means those measurable net reductions resulting from the VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

(d) Contractor's development and implementation costs means those costs which the contractor incurred specifically in its development, testing, preparation, and submission of the VECP, as well as its costs to make the contractual changes required by Government acceptance of a VECP.

(e) Government costs means those agency costs that result directly from developing and implementing the VECP and any net increases in the cost of testing, operations, maintenance, and logistics support. They do not include the normal administrative costs of processing the VECP.

(f) Instant contract means the contract under which the VECP is submitted. It does not include increases in quantities after approval of the VECP due to contract modifications, exercise of options, or additional orders. If this is a Multi-year contract, it does not include quantities funded after VECP approval. In a fixed price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

(g) Negative instant contract savings means that the acceptance of the VECP results in:

(i) a reduction in the instant contract of the actual unit cost;

(ii) an excess of contractor's development and implementation costs as compared to the unit cost reduction multiplied by the number of units affected; and

(iii) a consequent equitable adjustment increasing the instant contract price.

These savings are not a Government cost.

(h) Net acquisition savings means acquisition savings less Government costs.

(i) Sharing period means that period that extends to the 3 years after acceptance of the first item incorporating the VECP, or the delivery schedule in effect for all affected end items on the instant contract when the VECP is accepted, whichever is longer.

(j) Unit means the item or task to which the parties agree the VECP shall apply.

(k) Unit cost reduction means the amount of the decrease in unit cost of performance (without deducting any development or implementation costs and, for future contracts, with adjustments for learning, change in quantities, or other similar factors as necessary) resulting from using the VECP. On service contracts, the unit cost reduction is equal to the costs per hour multiplied by the number of hours per line item task saved by the VECP.

(1) <u>Value engineering change proposal (VECP)</u> means a proposal that:

(i) requires a change to the instant contract to implement; and

(ii) results in reducing the overall projected cost to the agency without impairing essential functions or characteristics, *provided* that it does not involve a change:

(A) in deliverable quantities only;

(B) in R&D quantities or test quantities due solely to results of previous testing under the instant contract; or

(C) to the contract type only.

1-1702 General.

(a) Value engineering is the formal method by which contractors may (i) suggest contract changes which would reduce the overall cost to the Government and share in any resulting savings, or (ii) be required to establish a program to identify and submit to the Government through contract changes. Value engineering is concerned with eliminating nonessential functions or components of end items or tasks which contribute to the cost of their being acquired, operated, or logistically supported.

(b) There are two basic value engineering (VE) approaches: (i) an incentive program in which contractor participation is voluntary, and (ii) a mandatory program in which the Government requires and pays for a specific VE program effort. In the first, contractors are responsible for developing and submitting VECPs using their own resources. The contract provides payment for these costs if a VECP is accepted. Use of the voluntary approach should not in itself increase costs to the Government. Under the second approach, the contractor must perform a VE effort of the scope and level of effort required by the Government's program plan and included as a separately priced item of work in the contract schedule. The objective of this VE program requirement is to ensure that the contractor's VE effort is applied to areas of the contract that offer opportunities for considerable savings consistent with the functional requirements of the end item of the contract.

1-1703 Policy.

(a) The Government shall provide contractors with a substantive financial incentive to develop and submit VECPs.

(b) The Government shall provide contractor with (i) objective and expeditious processing of VECPs submitted and (ii) a fair share of the savings on accepted VECPs.

(c) Subcontractors shall be encouraged to submit VECPs through incorporation of VE clauses in appropriate subcontracts.

(d) Value engineering incentive payments do not constitute profit or fee within the meaning of the limitations imposed by 10 U.S.C. 2306(d). (See 3-405.6(c) (2).)

1-1704 Clauses

1-1704.1 *Value Engineering Clause.* The contracting officer shall include the Value Engineering Clause in 7-104.44 in every supply or service contract of $100,000 or more. The clause may be included in supply or service contracts of lesser value if the contracting officer sees a potential for significant savings. If the contracting officer chooses to use a VE clause in a contract under $100,000, the appropriate clause referred to in 1-1704.1 through 1-1704.6 shall be used. Unless authorized by the chief of the contracting office, the contracting officer shall not include the clause in the following contracts:

- (i) research and development other than full-scale engineering development;
- (ii) engineering services from not-for-profit organizations, architect-engineer services, and personal services;
- (iii) product or component improvement unless the VE clause application is restricted to areas not covered by provisions for product or component improvement; or
- (iv) standard commercial items that do not involve any special requirements and specifications (such as packaging specifications).

1-1704.2 *Value Engineering, Alternate I.* The contracting officer may require a mandatory VE effort by using the clause in 7-104.44, as changed by Alternate I, in any supply or service contract when the contracting officer considers that substantial savings to the Government may result. The VE program requirements may be specified by the Government in the solicitation or, in the case of negotiated contracting, proposed by the contractor as part of the proposal and included as subject for negotiation.

1-1704.3 *Value Engineering, Alternate II.* If the contracting officer determines that both a VE incentive and mandatory program requirement are appropriate, the contracting officer shall include in the supply or service contract the clause in 7-104.44, as changed by Alternate II. The contracting officer shall restrict the VE program requirement in the contract schedule to well-defined areas of performance. The clause applies a VE program to the specified areas and a VE incentive to the remaining areas of the contract.

1-1704.4 *Value Engineering, Alternate III.* When the head of the contracting activity determines the cost of computing and tracking collateral savings will exceed the benefits to be derived, the contracting officer shall include in the contract the clause in 7-104.44, as changed by Alternate III.

1-1704.5 *Value Engineering, Alternate IV.* The contracting officer may include a mandatory VE program requirement in an architect-engineer contract. However, no VE sharing provisions shall be included. The contracting officer shall use the clause in 7-104.44, as changed by Alternate IV.

1-1704.6 *Value Engineering Incentive--Construction Clause.* The contracting officer shall include the clause in 7-602.50, Value Engineering Incentive--Construction, in all fixed-price and cost-reimbursement construction contracts of $100,000 or more, other than incentive contracts. The clause may be included in fixed-price or cost-reimbursement contracts under $100,000 if the contracting officer sees a potential for significant savings. The contracting officer shall not include the clause in incentive-type construction contracts.

1-1705 Processing VECPs.

(a) The contracting officer shall provide the contractor prompt written notification if (i) the VECP evaluation period will exceed 45 days after receipt of the VECP by the Government (the notification shall include the estimated decision data and the reasons for the additional time required), or (ii) the VECP is not accepted (the notification shall explain the reasons for nonacceptance).

(b) The contracting officer shall cite the Value Engineering clause (see 1-1704) when modifying the contract to incorporate a VECP or when making any VE-related change.

(c) The Government's decision to accept or reject a VECP; the Government's decision as to which of the sharing rates apply when the clause in 7-104.44, as changed by Alternate II, is used; and the Government's computation of collateral costs or collateral savings are not subject to the Disputes clause.

1-1706 Sharing Arrangements. The two types of savings shared by the Government and the contractor as a result of accepted VECPs are acquisition savings and collateral savings.

1-1706.1 *Sharing of Acquisition Savings.*

(a) The sharing base for acquisition savings is the number of affected end items on contracts of the contracting office which approved the VECP or its successor. The Head of the Contracting Activity (HCA) may extend the sharing base from the contracting office throughout the activity if the HCA determines in writing that it would be more equitable or would significantly increase the contractor's incentive. The sharing base may be further expanded by the Secretary concerned. The sharing rates (Government/contractor) for acquisition savings for supplies and services are based on the type of contract, the Value Engineering clause, and the type of savings as follows:

	Incentive (Voluntary)		Program Requirement (Mandatory)	
TYPE OF CONTRACT	Instant	Concurrent and Future	Instant	Concurrent and Future
Fixed-Price (Other than Incentive)	50/50	50/50	75/25	75/25
Incentive (Fixed-Price or Cost)	*	50/50	*	75/25
Cost-Reimbursement (Other than Incentive)	75/25	75/25	85/15	85/15

* Same ratio as the contract's cost incentive ratio.
** Includes cost-plus - plus award fee.

(b) Sharing on construction contracts applies only to savings on the instant contract. The sharing rates (Government/Contractor) are as follows:

Fixed-Price*	45/55
Cost-reimbursement*	75/25

* Other than incentive

(c) The contractor shall share is the savings on all affected units until the originally scheduled delivery date of the last affected unit under the instant contract or for 3 years after acceptance of the first unit incorporating the VECP, whichever is longer. For engineering development and low rate initial production contracts, the future sharing period shall encompass scheduled deliveries, equal in number to the quantity required over the highest 36 consecutive months of planned production, based on the Five Year Defense Program (FYDF) or other planning documentation at the time the VECP is accepted. Savings are paid through the contract under which the VECP is accepted. Savings are paid through the contract under which the VECP was accepted. Within 3 months after concurrent contracts have been modified to reflect price reductions attributable to use of the VECP, the contracting officer shall modify the instant contract to provide the contractor's share of savings. On incentive contracts, the contractor's share of concurrent, future, and collateral savings shall be paid as a separate firm fixed-price contract line item on the instant contract. The contractor shall be responsible for maintaining, for 3 years after final payment on the contract under which the VECP was accepted, records adequately identifying the first delivered unit incorporating the applicable VECP.

(d) The contractor's share of future contract savings may be paid as subsequent contracts are awarded or in a lump-sum payment at the time the VECP is accepted. The contracting officer ordinarily shall make calculations as future contracts are awarded and, within 3 months after their award, modify the instant contract to provide the contractor's share of savings. Use of the lump-sum method must be agreed to by the contractor. For future acquisition savings to by the contractor. For future acquisition savings calculated under the optional lump-sum method, the sharing base is an estimate of the number of items which will be purchased-by the contracting office during the sharing period. In deciding to use the more convenient lump-sum method for an individual VECP, the contracting officer shall consider:

(i) the accuracy with which the number of items to be purchased during the sharing period can be estimated and the probability of actual production of the projected quantity;

(ii) the availability of funds for a lump-sum payment; and

(iii) the administrative expense of otherwise amending the instant contract as future are awarded.

(e) The contractor's profit or fee shall be excluded when calculating the net savings on instant and future contracts.

(f) Department's shall establish procedures for funding and payment of the contractor's share of future savings.

1-1706.2 *Sharing of Collateral Savings.* The contractor's share of collateral savings is 20% of the estimated savings to be realized during an average year of use but shall not exceed (i) the contract's firm fixed-price, target price, target cost, or estimated cost at the time the VECP is accepted; or (ii) $100,000, whichever is greater.

1-1706.3 *Sharing Alternative - No-Cost Settlement Method.* In order to minimize the administrative costs for both parties when there is a known continuing requirement for the unit, consideration should be given to the settlement of a VECP submitted against the VE Incentive clause of the contract at no cost to either party. Under this method of settlement, the contractor would keep all of the savings on the instant contract, and all savings on his concurrent contracts only. The Government would keep all savings resulting from concurrent contracts placed on other sources, savings from all future contracts and all collateral savings. Use of this method must be by mutual agreement of both parties for individual VECPs.

1-1707 *Relationship to Other Incentives.* The Government shall offer the fullest possible range of motivation to contractors while precluding duplication of incentives. Those benefits of an approved VECP not rewardable under performance, design-to-cost, or similar incentives of the contract shall be rewarded under a Value Engineering clause. The targets of such incentives affected by the VECP shall not be adjusted because of the acceptance of the VECP.

THE APPLICABLE DAR CLAUSE
DAR 7-104-44

(c) The requirement for inclusion of the above clauses in contracts with foreign governments or agencies thereof may be waived in exceptional cases by the Head of a Procuring Activity, stating in writing his reasons for such determination.

7-104.43 *Reserved.*

7-104.44 *Value Engineering (VE).*

(a) In accordance with 1-1704, insert the following clause:

VALUE ENGINEERING (1982 OCT)

(a) *Applicability.* This clause applies to any Value Engineering Change Proposal (VECP) developed, prepared, and submitted by the Contractor.

(b) *Definitions.*

(1) "Acquisition savings" means savings resulting from the application of VECPs to contracts awarded by the same contracting office or its successors for essentially the same unit. Acquisition savings include:

(i) instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the unit cost reduction multiplied by the number of units affected by the VECP, less the Contractor's allowable development and implementation costs (on service contracts, the unit cost reduction is multiplied by the Labor-hour rate agreed upon for the tasks involved; then the Contractor's allowable development and implementation costs are subtracted from the total);

(ii) concurrent contract savings, which are measurable net reductions in the prices of other contracts of the contracting office in existence at the time the VECP was accepted; and

(iii) future contract savings, which are the product of the unit cost reduction under the instant contract, adjusted to consider the effects of learning, quantities, or other similar factors, multiplied by the number of units scheduled for delivery during the sharing period. If the instant contract is a multi-year contract, future contract savings include savings on all quantities funded after VECP acceptance.

(2) "Collateral costs" means agency costs of operation, maintenance, logistic support, or Government-furnished property.

(3) "Collateral savings" means those measurable net reductions resulting from the VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

(4) "Contractor's development and implementation costs" means costs which the Contractor incurs specifically in its development, testing, preparation, and submission of the VECP, as well as its costs to make the contractual changes required by Government acceptance of the VECP.

(5) "Government costs" means those agency costs that result directly from developing and implementing the VECP and any net increases in the cost of testing, operations, maintenance, and logistics support. They do not include the normal administrative costs of processing the VECP.

(6) "Instant contract" means this contract, under which the VECP is submitted. It does not include increases in quantities after approval of the VECP due to contract modifications, exercise of options, or additional orders. If this is a multi-year contract, it does not include quantities funded after VECP. In a fixed-price contract with prospective price predetermination, the term refers to the period for which firm prices have been established. These additional quantities shall be treated as future contracts.

(7) "Negative instant contract savings" means that the acceptance of the VECP results in:

(i) a reduction in the instant contract of the actual unit cost;

(ii) an excess of contractor's development and implementation costs as compared to the unit cost reduction multiplied by the number of units affected; and

(iii) a consequent equitable adjustment increasing the instant contract price. These savings are not a Government cost.

(8) "Net acquisition savings" means acquisition savings less Government costs.

(9) "Sharing period" means that period that extends to the 3 years after acceptance of the first item incorporating the VECP, or the delivery schedule in effect for all affected end items on the instant contract when the VECP is accepted, whichever is longer.

(10) "Unit" means the item or task to which the parties agree the VECP shall apply.

(11) "Unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any development or implementation costs and, for future contracts, with adjustments for learning, change in quantities, or other similar factors as necessary) resulting from using the VECP. On service contracts, the unit cost reduction is equal to the costs per hour multiplied by the number of hours per line item task saved by the VECP.

(12) "Value Engineering Change Proposal (VECP)" means a proposal that:

(i) requires a change to this, the instant contract, to implement; and

(ii) results in reducing the overall projected cost to the agency without impairing essential functions or characteristics, *provided* that it does not involve a change:

(A) in deliverable quantities only;

(B) in R&D quantities or test quantities due solely to results of previous testing under the instant contract; or

(C) to the contract type only.

(c) *VECP Preparation*. As a minimum, the Contractor shall include the information described in (1) through (7) below in each VECP. If the proposed change affects contractually required configuration management or similar procedures, the instructions in the procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement; the comparative advantages and disadvantages of each; a justification when an item's function or characteristic are being altered; the effect of the change on the end item's performance; and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) A separate, detailed cost estimate for both the affected portions of the existing contract requirement and the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under paragraph (i) of this clause. The Contractor shall also include a description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation, and operating and support costs.

(4) A projection of any effects the proposed change would have on collateral costs to the agency.

(5) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(6) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(7) Identification of the unit to which the VECP applies.

(d) *Submission*.

(1) The Contractor shall submit VECPs to the Principal Contracting Officer (PCO), unless otherwise designated in the contract. When the contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the PCO and to the Administrative Contracting Officer (ACO). The PCO shall notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional

time is required because of extenuating circumstances, the Contractor shall be notified within the 45-day period and provided the reason for the delay and the expected date of the Contracting Officer's decision. VECPs shall be processed expeditiously; however, the Government shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer shall provide the Contractor with written notification, explaining the reasons for rejection. The Contractor may withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(e) *Acceptance*. Any VECP may be accepted in whole or in part by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after the contract performance is completed. If a VECP is accepted, the Contractor shall share in the net acquisition savings realized by the Government in accordance with paragraph (f) below. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The Contracting Officer's decision to accept or reject all or part of any VECP, and the decision as to which of the sharing rates in (f)(1) below are applicable shall be final and not subject to the Disputes clause or otherwise subject to litigation under the Contract Disputes Act of 1978.

(f) *Sharing.*

(1) Rates. The Contractor shall share in net acquisition savings at a percentage rate determined by (i) the type of contract; (ii) the Value Engineering clause or alternate clause used; and (iii) if applicable, the schedule in this contract, as follows:

TYPE OF CONTRACT	Incentive (Voluntary) Instant	Incentive (Voluntary) Concurrent and Future	Program Requirement (Mandatory) Instant	Program Requirement (Mandatory) Concurrent and Future
Fixed-Price (Other than Incentive)	50	50	25	25
Incentive (Fixed-Price or Cost)	*	50	*	25
Cost-Reimbursement** (Other than Incentive)	25	25	15	15

* Same ratio as the contract's cost incentive ratio.
** Includes cost-plus-award-fee contracts.

(2) Computation of Net Acquisition Savings.

a. Net acquisition savings are fist realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset. Except in incentive contracts, Government costs, and any price or cost increases resulting from negative instant contract saving (see (f)(3)(i)), shall be offset against acquisition savings as such savings are realized on the instant contract, reductions negotiated in concurrent contracts, awards of future contracts, or agreement on a lump-sum payment for future savings (see (f)(4)). The Contractor's share of savings is computed by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see (f)(1)). Additional payments of the Contractor's share of net acquisition savings shall be paid to the Contractor at the time realized.

b. If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share in savings on the instant contract items affected through the contract incentive structure. Any negative instant contract savings shall be added tot he target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future savings.

(3) Contract Adjustment and Payment. The modification accepting the VECP shall:

(i) reduce the contract price or estimated cost by the value of instant contract savings, unless this is an incentive contract for which a fixed price has not been established (regardless of contract type, when instant contract savings are negative, the contract price, target price or cost, estimated cost, or ceiling price will be increased);

(ii) specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(iii) specify the amount of any Government costs or negative instant contract savings to be offset against net acquisition savings realized from concurrent or future contract savings; and

(iv) provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(A) Fixed-price contracts -- add to contract price.

(B) Cost-reimbursement contracts -- add to contract fee.

(4) Concurrent and Future Contract Savings.

a. Payments of the Contractor's share of concurrent and future contract savings hall be made by a modification to the instant contract in accordance with (f)(3)(iv). For incentive contract, add shares as a separate firm-fixed-price line item on the instant contract. When sharing on future contracts is expected, the Contractor shall maintain records to identify the first delivered unit for 3 years after final payment under the instant contract. If the instant contract is for low rate initial production or an earlier life-cycle phase, the future sharing period shall encompass scheduled deliveries, equal in number to the quantity required by the highest 36 consecutive months of planned production, based on the Five Year Defense Program (FYDP) or other planning documentation at the time the VECP is accepted.

b. When the Government wishes and the Contractor agrees, payment of the Contractor's share of future contract savings may be made in a single lump-sum payment rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in the modification incorporating the VECP into the instant contract and shall not be subject to subsequent adjustment.

c. The Contractor's share on concurrent savings shall be determined by taking the reduction in price of all concurrent contracts, subtracting any Government costs or increase in instant contract price or target not yet offset, and multiplying the result by the Contractor's sharing percentages.

d. The Contractor's share on future contracts shall be determined by multiplying the number of units scheduled for delivery prior to the expiration of the sharing period times the unit cost reduction appropriate to the contract times the Contractor's sharing rate.

e. If the Government properly rejects or does not receive units on which the share is paid, the Contractor shall reimburse the Government the proportionate share of these payments.

(5) Alternate No-Cost Settlement Method. When, in accordance with 1-1706.3, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) the Contractor will keep all the savings on the instant contract and on his concurrent contracts only.

(ii) the Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(g) *Collateral Savings*. If a VECP is accepted, the instant contract amount shall be increased, as specified in (f)(3)(iv), by 20 percent of the projected net reduction in collateral costs determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings shall not exceed (i) the contract's firm fixed price, target price, target cost, or estimated cost at the time the VECP is accepted, or (ii) $100,000, whichever is greater. The Contracting Officer shall be the sole determiner of the amount of collateral savings, and that amount shall not be subject to the Disputes clause. In all cases, degradation of performance, service life, or capability shall be considered in determining savings.

(h) *Relationship to Other Incentive.* Those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. The targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract does not provide such incentives to surpass specified targets the VE sharing shall apply only to the amount of achievement better than target.

(i) *Subcontracts.* The Contractor shall include appropriate VE clauses in any subcontract of $100,000 or more and may include them in subcontracts of lesser value. To compute any adjustment in the contract price under paragraph (f) above, the Contractor's VECP development and implementation costs shall include any subcontractor's development and implementation costs and any VE incentive payments to subcontractors that clearly result from the VECP. No such payment or accrual to a subcontractor will be permitted to reduce the Government's share of concurrent, future, or collateral savings.

(j) *Data.* The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by making the following legend on the affected parts:

> "These data, furnished under the Value Engineering clause of Contract ________________, shall not be disclosed outside the Government or duplicated, used, or disclosed, is whole or in part, for any purpose other than to evaluate a VECP submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor of from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data.

(End of clause)

(b) Alternate I. In accordance with 1-1704.2, if the Contracting Officer selects a mandatory VE program requirement, substitute the following in place of paragraph (a) of the basic clause:

(a) *General*. The Contractor shall (i) engage in a VE program and submit VE progress reports as specified in the contract schedule, and (ii) submit to the Contracting Officer any resulting Value Engineering Change Proposals (VECPs). (1980 DEC)

(End of clause paragraph)

(c) Alternate II. In accordance with 1-1704.3, if the Contracting Officer selects both a VE incentive and mandatory VE program requirement, substitute the following in place of paragraph (a) of the basic clause:

(a) *Applicability.* This clause applies to any Value Engineering Change Proposal (VECP) developed, prepared, and submitted by the Contractor. For those contract line items designated in the schedule as subject to the VE program requirement, the Contractor shall (i) engage in a VE program and submit VE progress reports as specified in the schedule, and (ii) submit to the Contracting Officer any resulting VECPs. The VE incentive provisions shall apply to the remaining areas of the contract. (1980 DEC)

(End of clause paragraph)

(d) Alternate III. In accordance with 1-1704.4, when the head of the contracting activity determines that the cost of computing and tracking collateral savings will exceed the benefits to be derived, use the basic clause in 7-104.44, delete paragraph (g), and renumber the remaining paragraphs.

(e) Alternate IV. If a mandatory VE program requirement is included in an architect-engineer contract, use the clause in 7-104.44, but substitute paragraph (a) below for paragraph (a) of the basic clause, delete paragraphs (f), (g), and (h) of the basic clause, and renumber the remaining paragraphs.

(a) *General.* The Contractor shall (i) engage in a VE program and submit VE progress reports as specified in the contract schedule, and (ii) submit to the Contracting Officer any resulting Value Engineering Change Proposals (VECPs). (1980 DEC)

(End of clause paragraph)

ALTOONA SOLUTION

Givens:

- Air Force contract
- Firm Fixed Price
- VE Incentive clause
- 100 units affected

Question:

1.

UCR = $1000 (per para (b) (11))

n = 100 each (per para (b) (10), whatever the parties agree the "unit" is, IS!)

"Product" = UCR X n (per para (b) (1) (I))

"Product" = $1000 X 100

"Product" = $ 100,000

Less: Ctr costs	<20,000>	(per para (b) (1) (i))
Instant contract savings (ICS)	$ 80,000	
Less: Govt costs	<45,000>	(per para (b) (8))
Net acquisition savings (NAS)	$35,000	
Times: Contractor's share rate	X 0.50	(per paras (f) (1) and (f) (2) a)
Contractor's share	$ 17,500	

2. Since the share rate is 50:50, the Government share is $17,500, the same is the contractor's share. An alternative method of calculating the Government share is presented after Question 3 is calculated.

3. Contract Adjustment (per par (f) (3)):

Original FFP	$ 1,080,000	
Less: ICS	< 80,000>	(per para (f) (3) (i))
"Remainder"	$ 1,000,000	
Plus: Ctr share	+ 17,500	(per para (f) (3) (iv) (A))
Revised FFP	$ 1,017,500	

Alternative method of calculating net Government share:

Change in contract price - $ 62,500 ($ 1,080,000 minus 1,017,500)

Less: Government costs < 45,000>

Net Government share $ 17,500 - the same as the contractor's share

4. The previous GC of $45,000 has no effect on the collateral share - that $45,000 *has* been previously offset in the NAS calculation.

5. That share is *not* more than the limits in para (g) (ii), which says that the "*Contractor's share* [emphasis supplied] of collateral savings shall not exceed (I) the contract's firm fixed price. . . .at the time the VECP is accepted, or (ii) $100,000, whichever is greater."

6. The *contractor's share*, according to para (g), is:

Ctr share = $123,000 X 0.20

Ctr share = $24,600, which is added to the contract price

General Discussion of Learning Curves:

A slope of 80% says that as you double the number of units produced, the time required to make the doubled unit will be 80% of the time to make the item before we doubled the quantity.

Mathematically, we can express this as:

$$HOURS_{2N} = HOURS_{N} \text{ X } 0.80$$

If we know how long it takes to make the first item (or if we can calculate it), and we know the slope of the learning curve, we can calculate how long it takes to do either the xth item or, using the cumulative tables, how long it takes to make x number of items.

The tables are set up to be used as multipliers - -

> If we know it takes 6 hours to build unit #1, and the slope of the learning curve is 77%, then, using page 54A in the Boeing tables (the Unit Progress Curve Table), we see that it would take 6 X 0.07981600, or 0.478896 hours (about a half-hour) to make unit #816.
>
> Using page 54B (the Cumulative Progress Curve Table), we find that would take 6 X 103.51867450, or 621.112+ hours to build units 1 through 816.
>
> If unit #1 takes 6 hours to build, unit #10 should take 2.518152 hours to build, unit #100 should take 1.056846 hours to build, and unit #1,000 would be expected to take >0.4437168 hours to build (off the table by one unit)

Now, to question 7 - - -

It is agreed that the savings attributable to the first 100 units is $100,000.

The contractor says that the savings attributable to the second 100 units, using an 80% learning curve is $61,466.

To check and see if s/he is at least using the proper tables, we can verify that cost for the second 100 units by using what we know, applying the tables to that and then moving forward to the verification process. Following that, we can calculate the contractor's future savings share.

UNIT PROGRESS CURVE TABLE 77% 77% — **UNIT PROGRESS CURVE TABLE** 77% 77% 54A

	0	1	2	3	4		5	6	7	8	9	
50	.09600640	.09593410	.09586200	.09759010	.09571840	50	.09564690	.09557560	.09550440	.09543350	.09536280	50
51	.09529220	.09522190	.09515170	.09508170	.09501190	51	.09494230	.09487290	.09488370	.09473460	.09466570	51
52	.09459700	.09452850	.09446020	.09439210	.09432410	52	.09425630	.09418870	.09412130	.09405400	.09398690	52
53	.09392000	.09385330	.09378670	.09372040	.09365410	53	.09358810	.09352220	.09345650	.09399100	.09332560	53
54	.09326040	.09319540	.09313050	.09306580	.09300120	54	.09293680	.09287260	.09280860	.09274470	.09268090	54
55	.09261740	.09255390	.09249070	.09242760	.09236460	55	.09230190	.09223920	.09217670	.09211440	.09205220	55
56	.09199020	.09192840	.09186670	.09180510	.09174370	56	.09168240	.09162130	.09156030	.09149950	.09143890	56
57	.09137830	.09131800	.09125770	.09119760	.09113770	57	.09107790	.09101820	.09895870	.09089940	.09084010	57
58	.09078100	.09072210	.09066330	.09060460	.09054610	58	.09048770	.09042940	.09037130	.09031330	.09025550	58
59	.09019780	.09014020	.09008270	.09002540	.08996830	59	.08991120	.08985430	.08979750	.08974090	.08968430	59
60	.08962800	.08957170	.08951560	.08945960	.08940370	60	.08894790	.08929230	.08923680	.08918140	.08912620	60
61	.08907110	.08901610	.08896120	.08890640	.08885160	61	.08879730	.08874290	.08868870	.08863450	.08858050	61
62	.08852660	.08847280	.08841920	.08836560	.08831220	62	.08825890	.08820570	.08815260	.08809970	.08804680	62
63	.08799410	.08794150	.08788900	.08783660	.08778440	63	.08773220	.08768020	.08762820	.08757640	.08752470	63
64	.08747310	.08742170	.08737030	.08731900	.08726790	64	.08721680	.08716590	.08711510	.08706440	.08701370	64
65	.08696320	.08691290	.08686260	.08681240	.08676230	65	.08671230	.08666250	.08661270	.08656300	.08651350	65
66	.08646400	.08641470	.08636550	.08631630	.08626730	66	.08621830	.08616950	.08612080	.08607210	.08602360	66
67	.08597520	.08592680	.08587860	.08583040	.08578240	67	.08573450	.08568460	.08563890	.08858120	.08554370	67
68	.08597520	.08544880	.08540160	.08535440	.08530730	68	.08526040	.08521350	.08516670	.08512000	.08507340	68
69	.08502690	.08498040	.08493410	.08488790	.08484170	69	.08479570	.08474970	.08470390	.08465810	.08461240	69
70	.08456680	.08452130	.08447590	.08443050	.08438530	70	.08434010	.08429510	.08425010	.08420520	.08416048	70
71	.08411570	.08407110	.08402650	.08398210	.08393770	71	.08389340	.08384920	.08380510	.08376110	.08371710	71
72	.08367320	.08362050	.08358580	.08354220	.08349860	72	.08345520	.08341180	.08336850	.08332550	.08328220	72
73	.08323920	.08319620	.08315340	.08311060	.08306790	73	.08302520	.08298270	.08294020	.08289780	.08285550	73
74	.08281320	.08277110	.08272900	.08268700	.08264510	74	.08260320	.08256150	.08251980	.08247820	.08243660	74
75	.08239520	.08235380	.08231250	.08227120	.08223010	75	.08218900	.08214800	.08210700	.08206620	.08202540	75
76	.08198470	.08194400	.08190350	.08166300	.08182250	76	.08178220	.08174190	.08170170	.08166160	.08162150	76
77	.08158160	.08154160	.08150180	.08146200	.08142230	77	.08138270	.08134310	.08130360	.08126420	.08122490	77
78	.08118560	.08114640	.08110720	.08106820	.08102910	78	.08099020	.08095130	.08091250	.08087360	.08083510	78
79	.08079630	.08075800	.08071950	.08068110	.08064280	79	.08060460	.0856640	.08052820	.08049020	.08045220	79
80	.08041420	.08037640	.08033850	.08030080	.08026310	80	.08022550	.08018800	.08015050	.08011310	.08007570	80
81	.08003840	.08000120	.07996400	.07992690	.07988990	81	.07985290	*.07981600*	.07977920	.07974240	.07970560	81
82	.07966900	.07963240	.07959580	.07955930	.07952290	82	.07948660	.07945030	.07941400	.07937780	.07934170	82
83	.07930570	.07926970	.07923370	.07919790	.07916200	83	.07912630	.07909060	.07905490	.07901930	.07898380	83
84	.07894830	.07891290	.07887760	.07884230	.07880710	84	.07877190	.07873670	.07870170	.07866670	.07863170	84
85	.07859680	.07856200	.07852720	.07849250	.07845780	85	.07842320	.07838860	.07835410	.07831970	.07828530	85
86	.07825100	.07821670	.07818250	.07814830	.07811420	86	.07808010	.07804610	.07801210	.07797820	.07794440	86
87	.07791060	.07787690	.07784320	.07760950	.07777590	87	.07774240	.07770890	.07767550	.07764220	.07760880	87
88	.07757560	.07754240	.07750920	.07747610	.07744300	88	.07741000	.07737710	.07734410	.07731130	.07727850	88
89	.07724570	.07721300	.07718040	.07714780	.07711520	89	.07708270	.07705030	.07701790	.07698550	.07695320	89
90	.07692100	.07688880	.07685660	.07682450	.07679250	90	.07676050	.07672850	.07669640	.07666470	.07663290	90
91	.07660120	.07656940	.07653780	.07650610	.07647460	91	.07644300	.07641160	.07638010	.07634880	.07631740	91
92	.07628610	.07625490	.07622370	.07619250	.07616140	92	.07613040	.07609940	.07606840	.07603750	.07600660	92
93	.07597580	.07594500	.07591430	.07588380	.07585290	93	.07582230	.07579180	.07576130	.07573080	.07570040	93
94	.07567000	.07563970	.07560940	.07557910	.07554890	94	.07551880	.07548870	.07545860	.07542860	.07539660	94
95	.07536870	.07533880	.07530890	.07527910	.07524930	95	.07521960	.07518990	.07516030	.07513070	.07510120	95
96	.07507170	.07504220	.07501280	.07498340	.07495410	96	.07492480	.07469550	.07486630	.07483710	.07480800	96
97	.07477890	.07474960	.07472080	.07469100	.07466290	97	.07463410	.07460520	.07457640	.07454770	.07451890	97
98	.07449030	.07446160	.07443300	.07440440	.07437590	98	.07434740	.07431900	.07429060	.07426220	.07623390	98
99	.07420560	.07417740	.07414920	.07412100	.07409290	99	.07406480	.07403680	.07400870	.07398080	*.07395280*	99

CUMULATIVE PROGRESS CURVE TABLE

CUMULATIVE PROGRESS CURVE TABLE

	77%				77%		77%				77%	54B
	0	1	2	3	4		5	6	7	8	9	
50	76.03308650	76.12902060	76.22488260	76.32067270	76.41639110	50	76.51203800	76.60761360	76.70311800	76.79855150	76.89391430	50
51	76.98920650	77.08442840	77.17958010	77.27466180	77.36967370	51	77.46461600	77.55948890	77.65429260	77.74902720	77.84369290	51
52	77.93828990	78.03281840	78.12727860	76.22167070	78.31599480	52	78.41025110	78.50443980	78.59856110	78.69261510	78.78660200	52
53	78.88052200	78.97437530	79.06816200	79.16188240	79.25553650	53	79.34912460	79.44264680	79.53610330	79.62949430	79.72281990	53
54	79.81608030	79.90927570	80.00240620	80.09547200	80.18847320	54	80.28141000	80.37428260	80.46709120	80.55983590	80.65251680	54
55	80.74513420	80.83768810	80.93017880	81.02260640	81.11497100	55	81.20727290	81.29951210	81.39168880	81.48380320	81.57585540	55
56	81.66784560	81.75977400	81.85164070	81.94344580	82.03518950	56	82.12687190	82.21849320	82.31005350	82.40155300	82.49299190	56
57	82.58437020	82.67568820	82.76694590	82.85814350	82.94928120	57	83.04035910	83.13137730	83.22233600	83.31323540	83.40407550	57
58	83.49485650	83.58557860	83.67624190	83.76684650	83.85739260	58	83.94788030	84.03830970	84.12868100	84.21899430	84.30924980	58
59	84.39944760	84.48958780	84.57987050	84.66969590	84.75966420	59	84.84957540	84.93942970	85.02922720	85.11896810	85.20865240	59
60	85.29828040	85.38785210	85.47736770	85.56682730	85.65623100	60	85.74557890	85.83487120	85.92410800	86.01328940	86.10241560	60
61	86.19148670	86.28050280	86.36946400	86.45837040	86.54722220	61	86.63601950	86.72476240	86.81345110	86.90208560	86.99066610	61
62	87.07919270	87.16766550	87.25608470	87.34445030	87.43276250	62	87.52102140	87.60922710	87.69737970	87.78547940	87.87352620	62
63	87.96152030	88.04946180	88.13735080	88.22518740	88.31296550	63	88.40070400	88.48838420	88.57601240	88.66358880	88.75111350	63
64	88.83858660	88.92600830	89.01337860	89.10069760	89.18796550	64	89.27518230	89.36234820	89.44946330	89.53652770	89.62354140	64
65	89.71050460	89.79741750	89.88428010	89.97109250	90.05785480	65	90.14456710	90.23122960	90.31784230	90.40440530	90.49091880	65
66	90.57738280	90.66379750	90.75016300	90.83647930	90.92274660	66	91.00896490	91.09513440	91.18125520	91.26732730	91.35335090	66
67	91.43932610	91.52525290	91.61113150	91.69696190	91.78274430	67	91.86847880	91.95416540	92.03980430	92.12539550	92.21093920	67
68	92.29643540	92.38188420	92.46728580	92.55264020	92.63794750	68	92.72320790	92.80842140	92.89358810	92.97870810	93.06378150	68
69	93.14880840	93.23378880	93.31872290	93.40361080	93.48845250	69	93.57324820	93.65799790	93.74270180	93.82735990	93.91197230	69
70	93.99653910	94.08106040	94.16553630	94.24996680	94.33435210	70	94.41869220	94.50298730	94.58723740	94.67144260	94.75560300	70
71	94.83971870	94.92378980	95.00781630	95.09179840	95.17573610	71	95.25962950	95.34347870	95.42728380	95.51104490	95.59476200	71
72	95.67843520	95.76206470	95.84565050	95.92919270	96.01269130	72	96.09614650	96.17955830	96.26292680	96.34625210	96.42953430	72
73	96.51277350	96.59598970	96.67912310	96.76223370	96.84530160	73	96.92832680	97.01130950	97.09424970	97.17714750	97.26000300	73
74	97.34281620	91.42558730	97.50831630	97.59100330	97.69364840	74	97.75625160	97.83881310	97.92133290	98.00381110	98.08624770	74
75	98.16864290	98.25099670	98.33330920	98.41558040	98.49781050	75	98.57999950	98.66214750	98.74425450	98.82632070	98.90834610	75
76	98.99033080	99.07227480	99.15417830	99.23604130	99.31786380	76	99.39964600	99.48138790	99.56308960	99.64475120	99.72637270	76
77	99.80795430	99.88949590	99.97099770	100.05245970	100.13388200	77	100.21526470	100.29660780	100.37791140	100.45917560	100.54040050	77
78	100.62158610	100.70273250	100.78383970	100.86490790	100.94593700	78	101.02692720	101.10787850	101.18879100	101.26966480	101.35049990	78
79	101.43129640	101.51205440	101.59277390	101.67345500	101.75409780	79	101.83470240	101.91526880	101.99579700	102.07628720	102.15673940	79
80	102.23715360	102.31753000	102.39786850	102.47816930	102.55843240	80	102.63865790	102.71884590	102.79899640	102.87910950	102.95918520	80
81	103.03922360	103.11922480	103.19918880	103.27911570	103.35900560	81	103.43885850	103.51867450	103.59845370	103.87819610	103.75790170	81
82	103.83757070	103.91720310	103.99679890	104.07635820	104.15588110	82	104.23536770	104.31481800	104.39423200	104.47360980	104.55295150	82
83	104.63225720	104.71152690	104.79076060	104.86995850	104.94912050	83	105.02824680	105.10733740	105.18639230	105.26541160	105.34439540	83
84	105.42334370	105.50225660	105.58113420	105.65997650	105.73878360	84	105.81755550	105.89629220	105.97499390	106.05366060	106.13229230	84
85	106.21088910	106.28945110	106.36767830	106.44647080	106.08688920	85	106.60335180	106.68174040	106.76009450	106.83841420	106.91669950	85
86	106.99495050	107.07316720	107.15134970	107.22949800	107.30761220	86	107.38569230	107.46373840	107.54175050	107.81972870	107.69767310	86
87	107.77558370	107.85346060	107.93130380	108.00911330	108.08688920	87	108.16463160	108.24234050	108.32001600	108.39765820	108.47526700	87
88	108.55284260	108.63038500	108.70789420	108.78537030	108.86281330	88	108.94022330	109.01760040	109.09494450	109.17225580	109.24953430	88
89	109.32678000	109.40399300	109.48117340	109.55832120	109.63543640	89	109.71251910	109.78956940	109.86658730	109.94357280	110.02052600	89
90	110.09744700	110.17433560	110.25119240	110.32801690	110.40480940	90	110.48156987	110.55829840	110.63499500	110.71165970	110.78829260	90
91	110.86489380	110.94146320	111.01800100	111.09450710	111.17098170	91	111.24742470	111.32383630	111.40021640	111.47656520	111.55288260	91
92	111.62916870	111.70542360	111.78164730	111.85783980	111.93400120	92	112.01013160	112.08623100	112.16229940	112.23833690	112.31434350	92
93	112.39031930	112.46626430	112.54217860	112.61806220	112.69391510	93	112.76973740	112.84552920	112.92129050	112.99702130	113.07272170	93
94	113.14839170	113.22403140	113.29964080	113.67521990	113.45076860	94	113.52828760	113.60177630	113.67723490	113.75266350	113.82806210	94
95	113.90343080	113.07876960	114.05407850	114.12935760	114.20460690	95	114.27982650	114.35501640	114.46017670	114.50530740	114.58040860	95
96	114.65548030	114.73052250	114.80553530	114.88051870	114.95547280	96	115.03039760	115.10529310	115.18015940	115.25499650	115.32980450	96
97	115.40458340	115.47933320	115.55405400	115.62874590	115.70940880	97	115.77804290	115.85264810	115.92722450	116.00177220	116.07629110	97
98	116.15078140	116.22524300	116.29967600	116.37408040	116.44845630	98	116.55280370	116.59712270	116.67141330	116.74567550	116.81990940	98
99	116.89411500	116.96829240	117.04244160	117.11656260	117.19065550	99	117.26472030	117.33875710	117.41276580	117.48674660	117.56069940	99

UNIT PROGRESS CURVE TABLE **UNIT PROGRESS CURVE TABLE**

53A

	77% 0	1	2	3	77% 4		77% 5	6	7	8	77% 9	
		1.00000000	.77000000	.66083400	.59290000		.54545400	.50884200	.48010800	.45653300	.43670100	
1	*.41969200*	.40487600	.39180800	.38015800	.36968300	1	.36019000	.35153000	.34358600	.33626000	.32947400	1
2	.32316300	.31727200	.31175500	.30657300	.30168200	2	.29708400	.29272300	.28858700	.28465600	.28091400	2
3	.27734600	.27393800	.27067800	.26755600	.26456100	3	.26168500	.25892000	.25625900	.25369500	.25122200	3
4	.24883500	.24652900	.24429900	.24214100	.24005100	4	.23802600	.23606100	.23415500	.23230300	.23050400	4
5	.22875500	.22705300	.22539700	.22378300	.22221200	5	.22068000	.21918500	.21772700	.21630400	.21491400	5
6	.21355700	.21223000	.21093200	.20966400	.20842200	6	.20720700	.20601800	.20485300	.20371200	.20259400	6
7	.20149700	.20042300	.19936800	.19853400	.19731900	7	.19632300	.18534500	.19438400	.19344100	.19251400	7
8	.19160300	.19070800	.18982700	.18896200	.18811000	8	.18727300	.18644900	.18563800	.18483900	.18405400	8
9	.18328000	.18251800	.18176700	.18102800	.18029900	9	.17958100	.17887300	.17817600	.17748800	.17681000	9
10	*.17614100*	.17458100	.17483100	.17418900	.17355500	10	.17283000	.17231300	.17170400	.17110300	.17050900	10
11	.16992300	.16934400	.16877300	.16820800	.16765000	11	.16709800	.16655400	.16691600	.16548400	.16495800	11
12	.16443900	.16392500	.16341700	.16291500	.16241800	12	.16192700	.16144100	.16096100	.16048500	.16001500	12
13	.15855000	.15908900	.15863400	.15818300	.15773700	13	.15729500	.15685800	.15642500	.15599700	.15957300	13
14	.15515300	.15473700	.15432500	.15391800	.15351400	14	.15311400	.15271700	.15232500	.15193600	.15155100	14
15	.15116900	.15079000	.15041600	.15004400	.14967600	15	.14831100	.14895000	.14859100	.14823600	.14788400	15
16	.14753400	.14718800	.14684500	.14450500	.14616700	16	.14583200	.14550100	.14517100	.14484500	.14452100	16
17	.14420000	.14388100	.14356500	.14325200	.14294100	17	.14263200	.14232600	.14202300	.14172100	.14142200	17
18	.14112500	.14083100	.14053900	.14024900	.13996100	18	.13967500	.13939100	.13911000	.13883000	.13855300	18
19	.13827700	.13800400	.13773200	.13746300	.13719500	19	.13693000	.13666600	.13640400	.13614400	13588500	19
20	.13562900	.13537400	.13512100	.13486900	.13462000	20	.13437200	.13412500	.13388100	.13363800	.13339600	20
21	.13315600	.13291800	.13268100	.13244600	.13221200	21	.13198000	.13174900	.13152000	.13129200	.13106600	21
22	.13084100	.13061700	.13039500	.13017400	.12995500	22	.12973700	.12952000	.12930500	.12909100	.12887800	22
23	.12866600	.12845600	.12824700	.12803900	.12783200	23	.12762700	.12742300	.12722000	.12701800	.12681700	23
24	.12661800	.12641900	.12622200	.12602600	.12583100	24	.12563700	.12544400	.12525300	.12506200	.12487200	24
25	.12468400	.12449600	.12431000	.12412400	.12394000	25	.12375600	.12357400	.12339200	.12321200	.12303200	25
26	.12285300	.12267600	.12248900	.12232300	.12214800	26	.12197400	.12180100	.12162900	.12145700	.12128700	26
27	.12111700	.12094900	.12078100	.12061400	.12044800	27	.12026200	.12011800	.11995400	.11879100	.11962900	27
28	.11946800	.11930700	.11814800	.11898900	.11883100	28	.11867300	.11851700	.11836100	.11820600	.11805100	28
29	.11789700	.11774500	.11759200	.11744100	.11729000	29	.11714000	.11699100	.11684200	.11669400	.11654700	29
30	.11640000	.11625400	.11610900	.11596400	.15582800	30	.11567700	.11553400	.11539200	.11525100	.11511000	30
31	.11497000	.11483000	.11469100	.11455300	.11441500	31	.11427800	.11414200	.11400600	.11387000	.11373600	31
32	.11360100	.11346800	.11333500	.11320200	.11307100	32	.11293900	.11280900	.11267800	.11254900	.11247000	32
33	.11229100	.11216300	.11203500	.11190800	.11178200	33	.11165600	.11153100	.11140600	.11128100	.11115700	33
34	.11103400	.11091100	.11078900	.11068700	.11054500	34	.11042500	.11030400	.11018400	.11006500	.10994600	34
35	.10982700	.10970900	.10959100	.10947400	.10935700	35	.10924100	.10912500	.10901000	.10889500	.10878100	35
36	.10866700	.10855300	.10844000	.10832700	.10821500	36	.10810300	.10799100	.10788000	.10777000	.10765900	36
37	.10755000	.10744000	.10733100	.10722300	.10711400	37	.10700700	.10689800	.10679200	.10668600	.10657900	37
38	.10647400	.10636800	.10626300	.10615800	.10605400	38	.10595000	.10584600	.10574300	.10564000	.10553800	38
39	.10543600	.10533400	.10523300	.10513200	.10503100	39	.10493100	.10483100	.10473100	.10463200	.10453300	39
40	.10443400	.10433600	.10423800	.10414000	.10404300	40	.10394600	.10384900	.10375300	.10365700	.10356200	40
41	.10346600	.10337100	.10327700	.10318200	.10308800	41	.10299400	.10290100	.10280800	.10271500	.10262300	41
42	.10253000	.10243800	.10234700	.10225600	.10216500	42	.10287400	.10198300	.10189300	.10180300	.10171400	42
43	.10162500	.10153600	.10144700	.10135900	.10127000	43	.10118300	.10109500	.10100800	.10092100	.10083400	43
44	.10074700	.10066100	.10057500	.10049000	.10040400	44	.10031900	.10023400	.10015000	.10006500	.09998120	44
45	.09989740	.09981380	.09975050	.09964740	.09956460	45	.09948200	.09939970	.09951760	.09923560	.09915420	45
46	.09907290	.09899180	.09891100	.09863030	.09875000	46	.09866980	.09859000	.09851030	.09843090	.09835170	46
47	.09827270	.09819400	.09811550	.09803720	.09795920	47	.09788140	.09780380	.09772640	.09764030	.09757240	47
48	.09749570	.09741920	.09734290	.09726690	.09719110	48	.09711540	.09704000	.09696490	.09688990	.09681510	48
49	.09674060	.09666620	.09656210	.09651820	.09644450	49	.09637100	.09629760	.09622450	.09615160	.09607890	49

We find on page 59B of the cumulative progress Curve Table that the cumulative multiplier for 100 units (the quantity we know the cost savings for) is 32.65082100. We also know that the amount of savings associated with those 100 units is $100,000.

If the multiplier for the first 100 units times the unit #1 cost yields total costs for those 100 units, could we not take that mathematical expression and solve for ("back into") the cost of unit #1? Sure we can! That is shown thusly:

$$\text{TOTAL COST}_{100} = \text{cumulative multiplier X unit \#1 cost}$$

$$\$100{,}000 = 32.65082100 \text{ X unit \#1 cost}$$

$$\text{Unit \#1 cost} = \$3{,}062.7101$$

If unit #1 took $3,062.7101 to build and the cumulative multiplier for 200 units is 52.719972, then, using the same formula we used before, we can calculate the total cost for the first 200 units.

$$\text{TOTAL COST}_{200} = \text{cumulative multiplier X unit \#1 cost}$$

$$\text{TOTAL COST}_{200} = 52.719972 \text{ X } \$3{,}062.7101$$

$$\text{TOTAL COST}_{200} = \$161{,}465.99 \text{ or approximately } \$161{,}466$$

TOTAL COST$_{200}$	$161,466
Minus: TOTAL COST$_{100}$	<u><100,000></u>
Total cost units 101 - 200	$ 61,466

With the above, we have verified the contractor's claim, at least as far as her/his use of the learning curve to estimate the cost savings associated with the second hundred units.

These savings are to be handled as future contract savings.

CUMULATIVE PROGRESS CURVE TABLE

	80%				80%
	0	1	2	3	4
		1.00000000	1.80000000	2.50210400	3.14210400
1	6.31538400	6.77749500	7.22684100	7.66475700	8.09234900
2	10.48495400	10.86022100	11.22991000	11.59434600	11.95382300
3	14.01990400	14.35059000	14.67863000	15.00308000	15.32442700
4	17.19346600	17.49601800	17.79623200	18.09478000	18.38993100
5	20.12172400	20.40374700	20.68401300	20.96256600	21.23944700
6	22.86779300	23.13402000	23.39885700	23.66233300	23.92447700
7	25.47082100	25.72435000	25.97674000	26.22801200	26.47818600
8	27.95721600	28.20021500	28.44225600	28.68335500	28.92352600
9	30.34585300	30.57991400	30.81315300	31.04558500	31.27721200
10	32.65082100	32.87715600	33.10277500	33.32768600	33.55189900
11	34.88298000	35.10254800	35.32147500	35.53977600	35.75745900
12	37.05096300	37.26451000	37.47748200	37.68991500	37.90178500
13	39.16171000	39.36986700	39.57751500	39.78465900	39.99730400
14	41.22096600	41.42425100	41.62707400	41.82944000	42.03135200
15	43.23353000	43.43238000	43.63080800	43.82881800	44.02641300
16	45.20346500	45.39525200	45.59265100	45.78666600	45.98029900
17	47.13425200	47.32529700	47.51598400	47.70631500	47.89629300
18	49.02890100	49.21648200	49.40373100	49.59065000	49.77724100
19	50.89003800	51.07440000	51.25845200	51.44249700	51.62563600
20	52.71997200	52.90133000	53.08239800	53.26317900	53.44367400
21	54.52074400	54.69928900	54.87756300	55.05556700	55.23330300
22	56.29417500	56.47007800	56.64572600	56.82112000	56.99626200
23	58.04189100	58.21530600	58.38848000	58.56141400	58.73411000
24	59.76535700	59.93642200	60.10725900	60.27787000	60.44825500
25	61.46590000	61.63474100	61.80336600	61.97177600	62.13997200
26	63.14472300	63.31145400	63.47798000	63.64430100	63.81041900
27	64.80202000	64.96764500	65.13217500	65.29651000	65.46065200
28	66.44149600	66.60431000	66.76692800	66.92938100	67.09164000
29	68.06136900	68.22236100	68.38317500	68.54381200	68.70427300
30	69.66338500	69.82263500	69.98171500	70.14062600	70.29936900
31	71.24832700	71.40591000	71.56333100	71.72059000	71.87768700
32	72.81691700	72.97290300	73.12873300	73.28440700	73.43992700
33	74.36982800	74.52428100	74.67858400	74.83273800	74.98674300
34	75.90768200	76.06066200	76.21349800	76.36619000	76.51873900
35	77.43106300	77.58262600	77.73405100	77.88533700	78.03648600
36	78.94051500	79.09071400	79.24077900	79.39071100	79.34051000
37	80.43654500	80.58542800	80.73418200	80.88280800	81.03130600
38	81.91963800	82.06724200	82.21473200	82.36209700	82.50933900
39	83.39021700	83.53660500	83.68287300	83.82902100	83.97502900
40	84.84873000	84.99395300	85.13581900	85.28338000	85.42534400
41	86.29556500	86.43962100	86.58356400	86.72739500	86.87111400
42	87.76109700	87.87404200	88.01687800	88.15960500	88.30222400
43	89.15557900	89.29754800	89.43031100	89.58096900	89.72252200
44	90.56964700	90.41047500	90.85119500	90.99181500	91.13233300
45	91.97331700	92.11313000	92.25284300	92.39245600	92.53197000
46	93.36699200	93.50582100	93.64455300	93.78318900	93.92172800
47	94.75095700	94.88883000	95.02660900	95.16429400	95.30188600
48	96.12548500	96.26242900	96.39958100	96.53504200	96.67271200
49	97.49083300	97.62687300	97.76282400	97.89868600	98.03445900

CUMULATIVE PROGRESS CURVE TABLE

	80%				80%	59B
	5	6	7	8	9	
	3.73774100	4.29942400	4.83392400	5.34592400	5.83887400	
1	8.51054800	8.920145800	9.32183100	9.32183100	10.10374600	50
2	12.30860700	12.65893900	13.00504100	13.00504100	13.68534500	51
3	15.64278900	15.95827700	16.27099400	16.27099400	16.88850000	52
4	18.68355000	18.97509900	19.26463600	19.55221800	19.83789700	53
						54
5	21.51469800	21.78835700	22.06046100	22.33104600	22.60014600	55
6	24.18531600	24.44487600	24.70318200	24.96025900	25.21613100	56
7	26.72728100	26.97531600	27.22231000	27.46828000	27.71324300	57
8	29.16278400	29.40114200	29.63861500	29.87521600	30.11095800	58
9	31.50805400	31.73811900	31.96741800	32.19596100	32.42375900	59
10	33.77542200	33.99826400	34.22043300	34.44193800	34.66278700	60
11	35.97453100	36.19099900	36.40686900	36.62214900	36.83684500	61
12	38.11310800	38.32388900	38.53413400	38.74684900	38.95303900	62
13	40.19745500	40.40311700	40.60829400	40.81299200	41.01721400	63
14	42.23281500	42.43383300	42.63440900	42.83454800	43.03425400	64
15	44.22359700	44.42037300	44.61671100	44.81271400	45.00828700	65
16	46.17355400	46.36643300	46.55893900	46.75107600	46.94284600	66
17	48.08592100	48.27520200	48.46413800	48.65273100	48.84098500	67
18	49.96350700	50.14945000	50.33507200	50.52037600	50.70536400	68
19	51.80877200	51.99160700	52.17414200	52.35638000	52.53832300	69
20	53.62388500	53.80381400	53.98346300	54.16283300	54.34195600	70
21	55.41077200	55.58797600	55.76491700	55.94159600	56.11801500	71
22	57.17115300	57.34579400	57.52018700	57.69433300	57.86823400	72
23	58.90656900	59.07879300	59.25078200	59.42253800	59.59406300	73
24	60.61841600	60.78835400	60.95801000	61.12756600	61.29684200	74
25	62.30795600	62.47572800	62.64329000	62.81064200	62.97778600	75
26	63.97633500	64.14205000	64.30756500	64.47288100	64.63799900	76
27	65.62460200	65.78836000	65.95192800	66.11530600	66.27849500	77
28	67.25371500	67.41560800	67.57731900	67.73884900	67.90019900	78
29	68.86455900	69.02467000	69.18460700	69.34437200	69.50396400	79
30	70.45794400	70.61635200	70.77459300	70.93266900	71.09058000	80
31	72.03462300	72.19139900	72.34801600	72.50447400	72.66077400	81
32	73.59529200	73.75050400	73.90556300	74.06046900	74.21522400	82
33	75.14060000	75.29430900	75.44787100	75.60128700	75.75453700	83
34	76.67114600	76.82341100	76.97553500	77.12751800	77.27936000	84
35	78.18749700	78.33837200	78.48911100	78.63971400	78.79018200	85
36	79.69017700	79.83971200	79.98911600	80.13838900	80.28753200	86
37	81.17967600	81.32791900	81.47603500	81.62402500	81.77188900	87
38	82.65645800	82.80345400	82.95032700	83.09707800	83.24370800	88
39	84.12095800	84.26674800	84.41242000	84.55797400	84.70341100	89
40	85.57358300	85.71820800	85.74820800	86.00711400	86.15139600	90
41	87.01472100	87.15821700	87.15821700	87.44487700	87.58804200	91
42	88.44473500	88.58713800	88.58713600	88.87162200	89.01370400	92
43	89.86397000	90.14655200	90.00531300	90.28768700	90.42871900	93
44	91.27275000	91.41306500	91.41306500	91.69339200	91.83340500	94
45	92.67138600	92.81070300	92.94992200	93.08904300	93.22806600	95
46	94.06017100	94.19851900	94.33677100	94.47492800	94.61299000	96
47	95.43938400	95.57678900	95.71410100	95.85132100	95.98844900	97
48	96.80929100	96.94578000	97.08217800	97.21848600	97.35470400	98
49	98.17074400	98.30574100	98.44125000	98.57667100	98.71200500	99

8. Assuming, then that this is true, we can calculate the contractor's future savings share on the second 100 units, using para (f) (4) (d) and (f) (1):

UCR ($61,466) / (100)	$614.66
Times: Number of units scheduled	X 100
"Product"	$61,466
Times: Contractor's share rate	X 0.50
Contractor's future savings share	$30,733

9. The situation:

VECP acceptance date - has no effect on this decision. That date is used to determine whether a contract is a concurrent contract or a future contract.

Delivery schedule - From May 88 + 6 months = November 88 DD 250 date - June 88.

Para (b) (9) says the sharing period under this clause is 3 years following acceptance of first item or the delivery schedule in effect when the VECP was accepted, whichever is longer. Given this guidance, the end of the sharing period is June 91 (June 88 + 3 years), which is definitely longer than November 88.

ALPENA ASSOCIATES

BACKGROUND:
This an older clause (ASPR, (1971 May)) in which there are some significant differences from the current (FAR, Apr 1984) clause. The first major difference is that the sharing rates differ for instant (para (d)), concurrent (para (j)(3)) and future contracts (para (j)(l)) but, within those categories, are the same for any type contract.

The second significant difference is that Government-Furnished Property (GFP) (for calculation of collateral savings) is separated into GFP (other than GF Material) (para (f)(l)) and Government-furnished material (para (f)(2)), with different percentages applied to each category. Note, also, that Government costs are not considered in any of the usual calculations (i.e., to calculate Net Acquisition Savings) - only the savings to the Government as relates to collateral savings are considered directly. The only other time we would look at Government costs are when the intent of para (a)(2)(ii) is applied and we determine that the cost reduction proposal "would result in savings to the Government by providing a decrease in the [overall] cost of performance of this contract. . . ."

Probably the largest change has to do with the length of the share period. In the current clause, the share period is described as "beginning with acceptance of the first unit incorporating the VECP and ending at the later of (1) 3 years after the first unit affected by the VECP is accepted or (2) the last scheduled delivery date of an item affected by the VECP under this contract's delivery schedule in effect at the time the VECP is accepted." (FAR 48.001 and 52.248-1 (b)) In the ASPR (1971 May) clause, the share period is defined as the number of units which "are originally scheduled for delivery not later than two (2) years after either the last originally scheduled delivery date for any such item under this contract or the date of acceptance of the cost reduction proposal whichever is later." (para (j)(l)(ii)) Notice that the clock on the share period starts, basically, when the VECP is accepted in the earlier clause and not, as in the current clause, when the first item incorporating the VECP is accepted. Even with that earlier start time, the share period in the 1971 clause only runs for two years and not for the three years the current clause provides for. What this means is that the current clause provides at least one year more sharing umbrella and potentially much more, particularly if there is a substantial time lag between acceptance of the VECP and acceptance of the first item incorporating the VECP. This is another indication of the evolution of the Value Engineering program to provide greater incentive to the contractor to submit cost reduction proposals.

SCENARIO:
Approximately six months ago, the firm of Alpena Associates received a $1,080,000 Firm Fixed Price (FFP) contract as a result of an Air Force sealed bid solicitation. For illustrative purposes, it is assumed that Alpena's costs to perform this contract are $1,000,000, which provides them with $80,000 profit. The delivery schedule called for 100 units. A cost reduction proposal has been initiated by the Alpena VE group with an estimated effect on cost of performance of $100,000 or more. Direct charge costs of developing the proposal total $7,000 and $13,000 of additional tooling has been identified as necessary for implementation of the proposal.

QUESTIONS:
1. If the Air Force accepts the proposal and agrees with the estimates, what will be the resulting adjustment to the contract price?

SCENARIO II:
Government support costs are ascertained to be decreased by a net amount of $78,000 over two typical years.

QUESTIONS II:
2. What would be the resultant adjustment in price resulting from this?

SCENARIO III:
An argument develops over the amount that the Contracting Officer would be expected to estimate as the "unit cost reduction." One group supports an $800 figure while $1,000 is the contention of the other group.

QUESTIONS III:
3. Determine the basis for each argument and be ready to defend your conclusion.

SCENARIO IV:
The 100th item of the instant contract was scheduled for delivery in August of 1988 but the acceptance of the VECP in June would permit the last item to be delivered in July.

QUESTIONS IV:
4. When will the royalty sharing umbrella expire?

The Applicable ASPR Contract Clause

VALUE ENGINEERING INCENTIVE (1971 MAY)

(a) (1) This clause applies to those cost reduction proposals initiated and developed by the Contractor for changing the drawings, designs, specifications, or other requirements of this contract. This clause does not, however,, apply to any such proposals unless it is identified by the Contractor, at the time of its submission to the Contracting Officer, as a proposal submitted pursuant to this clause. Furthermore, if this contract also contains a "Value Engineering Program Requirement" clause, this clause applies to any given value engineering change proposal only to the extent the Contracting Officer affirmatively determines that it resulted from value engineering efforts clearly outside the scope of the program requirement; to the extent the Contracting Officer does not affirmatively so determine, the proposal shall be considered for all purposes as having been submitted pursuant to the Value Engineering Program Requirement clause, even if it was purportedly submitted pursuant to this clause.

(2) The cost reduction proposals contemplated are those that:

(i) would require, in order to be applied to this contract, a change to this contract; and
(ii) would result in savings to the Government by providing-

(A) a decrease in the cost of performance of this contract, without impairing any of the items' essential functions and characteristics such as service life, reliability, economy of operation, ease of maintenance, and necessary standardized features, or

(B) items, regardless of the acquisition cost, producing a net reduction in the cost of Government-furnished property, operations, maintenance, or other areas which exceeds any increased acquisition cost, without impairing any of the items' essential functions and characteristics.

(b) As a minimum, the following information shall be submitted by the Contractor with each proposal:

(j) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each;

(ii) an itemization of the requirements of the contract which must be changed if the proposal is adopted, and a recommendation as to how to make each such change (e.g., a suggested revision);

(iii) an estimate of the reduction in performance costs, if any, that will result from adoption of the proposal, taking into account the costs of development and implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (e) below) and the basis for the estimate;

(iv) a prediction of any effects the proposed change would have on collateral costs to the Government such as Government-furnished property costs, costs of related items, and costs of maintenance and operation;

(v) a statement of the time by which a change order adopting the proposal must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract completion time or delivery schedule; and

(vi) the dates of any previous submissions of the proposal, the numbers of the Government contracts under which submitted, and the previous actions by the Government, if known.

(c) (1) Cost reduction proposals shall be submitted to the Procuring Contracting Officer (PCO). When the contract is administered by other than the procuring activity, a copy of the proposal shall also be submitted to the Administrative Contracting Officer (ACO). Cost reduction proposals shall be processed expeditiously; however, the Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. The Contractor does have the right to withdraw, in whole or in part, any value engineering change proposal not accepted by the Government within the period specified in the proposal. The decision of the Contracting Officer as to the acceptance of any such proposal under this contract (including the decision as to which clause is applicable to the proposal if this contract contains both a "Value Engineering Incentive" and a "Value Engineering Program Requirement" clause) shall be final and shall not be subject to the "Disputes" clause of this contract.

(2) The Contracting Officer may accept, in whole or in part, either before or within a reasonable time after performance has been completed under this contract, any cost reduction proposal submitted pursuant to this clause by giving the Contractor written notice thereof reciting acceptance under this clause. Where performance under this contract has not yet been completed, this written notice may be given by issuance of a change order to this contract. Unless and until a change order applies a value engineering change proposal to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. If a proposal is accepted after performance under this contract has been completed, the adjustment required shall be effected by contract modification in accordance with this clause.

(3) If a cost reduction proposal submitted pursuant to this clause is accepted by the Government, the Contractor is entitled to share in instant contract savings, collateral savings, and future acquisition savings not as alternatives, but rather to the full extent provided for in this clause.

(4) Contract modifications made as a result of this clause will state that they are made pursuant to it.

(d) If a cost reduction proposal submitted pursuant to this clause and affecting any of the items described in paragraph (a) of the "Incentive Price Revision (Firm Target)" clause of this contract is accepted and applied to this contract, an equitable adjustment in the total target price of such items and in any other affected provisions of this contract shall be made in accordance with this clause and the "Termination for Convenience," "Changes," or other applicable clause of this contract. The equitable adjustment in such total target price shall be established by determining the effect of the proposal on the Contractor's cost of performance, taking into account the Contractor's cost of developing the proposal, insofar as such is properly a direct charge not otherwise reimbursed under this contract, and the Contractor's cost of implementing the change (including any amount attributable to subcontracts in accordance with paragraph (e) below). When the cost of performance of this contract is decreased as a result of the change, (i) the total target cost of the affected items shall be reduced by the full amount of the total estimated decrease in the Contractor's cost of performance, (ii) the total target profit relating to such items shall be increased by thirty percent (30%) of the total estimated decrease, and (iii) the maximum dollar limit on the total final price of such items shall be decreased by seventy percent (70%) of the total estimated decrease. When the cost of performance of this contract is increased as a result of the change, the equitable adjustment increasing the contract price shall be in accordance with the "Changes" clause rather than under this clause, but the resulting contract modification will state that it is made pursuant to this clause.

(e) The Contractor will use his best efforts to include appropriate value engineering arrangements in any subcontract which, in the judgment of the Contractor, is of such a size and nature as to offer reasonable likelihood of value engineering cost reductions. For the purpose of computing any equitable adjustment in the contract price under paragraph (d) above, the Contractor's cost of development and implementation of a cost reduction proposal which is accepted under this contract shall be deemed to include any development and implementation costs of a subcontractor and any value engineering incentive payments to a subcontractor, or cost reduction shares accruing to a subcontractor, which clearly pertain to such proposal and which are incurred, paid, or accrued in the performance of a subcontract under this contract. However, no such payment of accrual to a subcontractor will be permitted, either as a part of the Contractor's development or implementation costs or otherwise, to reduce the Government's share on additional purchases as contemplated by paragraph (j) (if included) of this clause.

(f) (1) In the event that an accepted cost reduction proposal results in a projected net reduction in ascertainable costs in such areas as Government-furnished property (other than Government-furnished material under this contract), operations, or logistic support which exceeds any increase in acquisition cost, the contract price or fee, as applicable, shall be increased by ten percent (10%) of the projected net reduction in ascertainable collateral costs, i.e., collateral savings, estimated to accrue to the Government during an average or typical year of use of the item in which the change is incorporated. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract.

(2) In the event that an accepted cost reduction proposal results in a net reduction in the amount of Government-furnished material under this contract, involving savings to the Government in excess of any increase in cost of performance of this contract, then in addition to any adjustment made pursuant to the "Changes" clause by reason of such increase, the contract price or fee, as applicable, shall be increased by thirty percent (30%) of the net savings estimated to accrue to the Government in the acquisition of the items under this contract. If the proposal results in a decrease in the cost of performance as well as a net reduction in the amount of Government-furnished material under this contract, an appropriate adjustment in the contract price shall be made pursuant to paragraph (d) in addition to the adjustment provided for by this paragraph (f).

(g) (1) A cost reduction proposal identical to one submitted under any other contract with the Contractor or another contractor may also be submitted under this contract.

(2) If the Contractor submits under this clause a proposal which is identical to one previously received by the Contracting Officer under a different contract with the Contractor or another contractor for substantially the same items and both proposals are accepted by the Government, the Contractor shall share instant contract savings realized under this contract, pursuant to paragraph (d) of this clause, but he shall not share collateral savings or future acquisition savings pursuant to paragraphs (f) and (j) (if included) of this clause.

(h) The Contractor may restrict the Government's right to use any sheet of a value engineering proposal or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet:

> This data furnished pursuant to the Value Engineering clause of contract shall not be disclosed outside the Government, or duplicated, used, or disclosed, on whole or in part, for any purpose other than to evaluate a value engineering proposal submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the Contractor or from another source, without limitations. If such a proposal is accepted by the Government under said contract after the use of this data in such an evaluation, the Government shall have the right to duplicate, use, and disclose any data reasonably necessary to the full utilization of such proposal as accepted, in any manner and for any purpose whatsoever, and have others so do.

In the event of acceptance of a value engineering proposal, the Contractor hereby grants to the Government all rights to use, duplicate or disclose, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so, any data reasonably necessary to fully utilize such proposal.

(i) (1) For purposes of sharing under paragraph (d) above, the term "instant contract" shall not include any supplemental agreements to or other modifications of the instant contract, executed subsequent to acceptance of the particular value engineering change proposal, by which the Government increases the quantity of any item or adds any item, nor shall it include any extension of the instant contract through exercise of an option (if any) provided under this contract after acceptance of the proposal. Such supplemental agreements, modifications, and extensions shall be considered "future contracts" within paragraph (j) (if included) of this clause.

(2) If this contract is an estimated requirements or other indefinite quantity type contract, the term "instant contract" for purposes of sharing under paragraph (d) above shall include only those orders actually placed by the Government up to the time the particular value engineering change proposal is accepted. All orders placed subsequent to the acceptance of the particular change proposal shall be considered "future contracts" within paragraph (j) (if included) of this clause.

(3) If this clause is included in a basic ordering agreement, the "instant contract" for purposes of sharing under paragraph (d) above shall be the order under which the particular value engineering change proposal is submitted. Other orders under the same agreement shall be considered either "existing contracts" (if awarded prior to acceptance of the proposal), within paragraph (j) (if included) of this clause.

(4) If this contract is a multi-year contract, the "instant contract" shall be the entire contract for the total multi-year quantity.

(j) (1) If a cost reduction proposal is accepted under this clause, the Contractor will be paid (in addition to any adjustment under (d) and (f) (if included) above) a reward share of estimated savings to the Government to be realized on additional Government purchases of items utilizing the cost reduction proposal. The number of such items which the Government foresees it will purchase under other contracts is 4,000. The Contractor's reward share will be twenty-five (25%) of the estimated savings to the Government. The estimated savings will be arrived at by:

(i) multiplying (A) the unit cost reduction under this contract (without deducting any cost of implementation) by (B) the aforesaid number of items which the Government foresees it will purchase under other contracts, and then

(ii) subtracting the sum of --

(A) the net increases in ascertainable collateral costs to the Government which the Contracting Officer estimates must reasonably be incurred as a result of application of the cost reduction proposal to this and other contracts, plus

(B) and predictable costs of implementing the cost reduction proposal which the Contracting Officer estimates must reasonably be incurred in its application to other contracts with the Contractor or other contractors, plus

(C) the amount of any increase in the contract price under (d) above which results from application of the cost reduction proposal to this contract.

(2) For the purpose of this paragraph (j), the unit cost reduction under this contract shall be the Contracting Officer's estimate of the effect which the value engineering change would have had on the Contractor's cost of performance (as well as on the cost of the items to the Government, where the change involves reduction in the amount of Government-furnished material under this contract) if the change had been included in the original specifications under this contract (this estimate should not take into account any costs of developing the proposal or implementing the change), divided by the number of units called for under this contract.

(3) The Contractor's reward share, if any will be determined promptly after acceptance of each cost reduction proposal and the contract price will be increased accordingly.

(4) If this is a contract for overhaul or maintenance (including the repair, alteration, modification or modernization), the number of items set forth in subparagraph (j) (1) above includes those items which the Government foresees will utilize the cost reduction proposal if the overhaul and maintenance of such items is accomplished within its own resources as well as by purchase under contract. The Contractor's reward share under this subparagraph (j) (4) will be determined in the same manner and to the same extent as though such work were performed by purchase under contract, provided that no savings for which a reward share is payable under paragraph (f) hereof shall be included in any payment under this paragraph (j).

ALPENA SOLUTION

Givens:

- Air Force Firm Fixed Price
- VE incentive clause
- 100 units affected
- Relevant paras of the 1971 VEI clause:

para d	- instant savings	- 55/45 (neg.)
para j(l)	- future savings (2 years)	- 60/40 (neg.)
para j(3)	- concurrent savings	- 60/40 (neg.)
para f(l)	- collateral savings	- 90/10 (std.)

Cost (estimated)	$ 1,000,000
Profit (8%) (expected)	80,000
Firm Fixed Price	$ 1,080,000

1. Resulting adjustment to the contract price:

VECP savings (all 100 units)		$ 100,000
Minus: Contractor cost to develop	$ 7,000*	
Contractor cost to implement	+ 13,000**	< 20,000>
Net VECP		$ 80,000
Adjustment per para (d)		X 0.55
Reduction in contract price		$ 44,000

NOTE: NO reductions due to Government costs as in current clause.

*No reimbursement for this $7,000 on a FFP contract if the VECP is rejected.

**This $13,000 cost will usually not be present if the VECP is rejected.

Revised figures after implementation of VECP:

Firm Fixed Price	\$ 1,080,000 - 44,000 = \$ 1,036,000	
Minus: Cost	<u>1,000,000</u> - 80,000 = <u>920.000</u>	
Profit	\$ 80,000 \$ 116,000	(12.6%)

2. Contractor share of collateral savings:

$78,000 X 0.10 = $7,800 - but, this is for two years. Collateral savings are based on an average year, so divide by 2 to get the contractor's share - <u>$3.900</u>.

3. This clause says - in para (j)(l) - that unit cost reduction is calculated *without* deducting any cost of development or implementation. In the ASPR clause from September 1977, there are two different methods of calculating the unit cost reduction (see the Ashland case). Para (e)(l)(i)(A) says that unit cost reduction on the instant contract is calculated by deducting Contractor development and implementation costs from gross VECP savings. On the other hand, para (e)(3)(i) states that the "unit cost reduction for future contract sharing shall be the unit cost reduction under [the] instant contract without deducting any cost of development or implementation." Memories in the organization are such that individuals tend to interpret contracts in light of what they *think* the contract clauses say rather than what it actually in the clause. What has likely happened in the Alpena situation is that one side wanted to calculate unit cost reduction by deducting contractor development and implementation costs from the gross VECP savings (the incorrect method) and the other wanted to calculate UCR as the clause says it should be done - just as we've done below:

$$\text{Unit cost reduction} = \frac{\text{Total cost reduction}}{\text{Total units}}$$

$$\text{UCR} = \frac{100{,}000}{100}$$

$$\text{UCR} = \underline{\underline{\$1.000}}$$

4. Para (j)(l)(ii) says that August 1990 is the correct answer. The other option would be June of 1990, and the clause says we take the *later* of the two dates.

ASHLAND, INC.

BACKGROUND:
This is a case based on a DAR clause from September 1977 (the clause was used until February 1981). The two salient differences between this clause and the April 1984 clause are: 1) the way Government costs are handled and 2) the way in which "instant unit cost reduction" and "future unit cost reduction" calculations differ.

In the Alpena case, Government costs were not considered in a direct manner; in the current clause, Government costs are subtracted from instant contract savings to arrive at net acquisition savings, from which the contractor's share is calculated. In the clause used in the Ashland case, Government costs are *added* to instant contract savings, per para (e)(l)(ii)(B) of the clause.

Instant unit cost reduction is calculated, according to para (e)(l)(i)(A), by "including" contractor development and implementation costs. What this word "includes" means is that contractor development and implementation costs are deducted from gross savings before dividing by the number of units affected by the VECP. I realize that "include" is not the best choice of words to indicate to you how Instant Unit Cost Reductions (IUCR's) are figured, but we have to go with the words the clause writers used and then apply the correct interpretation to those terms. Future Unit Cost Reduction (FUCR), on the other hand, is calculated (according to para (e)(3)(i)) by not deducting any cost of development or implementation. In the current clause, IUCR and FUCR are calculated the same way, with FUCR being the IUCR adjusted for learning or quantity changes.

SCENARIO:
Early in 1980, Ashland, Inc. was awarded a Firm Fixed Price (FFP) contract by the Air Force over strong competition for six other firms. As awarded, the overall price of the contract was $2,160,000. Ashland has developed a VECP with the reduction in costs of the instant contract estimated to be $200,000. From the time the VE project was initiated, Ashland has accumulated development costs totaling $14,000 and $26,000 of additional tooling is considered essential to the VECP's implementation. The VECP will affect all 100 units called for by the instant contract. Government costs are estimated to be $90,000.

QUESTIONS:

1. As the Contracting Officer, do you recommend that the VECP be accepted?

2. If it is accepted, what is the contractor’s share of instant contract savings?

3. What is the Government’s share of instant contract savings?

SCENARIO II:
After further review by the Air Logistics Center, it is estimated that - after the $90,000 is expended by the agency by the agency - there will be gross savings to the Air Force of 4123,000 over an average year in which the changed item is operated.

QUESTIONS II:
4. What is the contractor's share of these collateral savings?

SCENARIO III:
The VECP is implemented in each of the 100 units called for by the instant contract.

QUESTIONS III:
5. What will be the unit cost reduction that will be used in future contract share computations?

SCENARIO IV:
The instant contract schedule called for unit #1 to be delivered in June 1988. Unit #100 was scheduled in August of 1988 but will not be delivered until November 1988. The VECP was received in the Government Contracting office in February 1988, was accepted by both parties in May 1988, but the DD 250 for unit #1 wasn't signed off on until June 1988.

QUESTIONS IV:
6. When will the future contract sharing period expire?

Applicable ASPR Cite
ASPR Part 17

GENERAL PROVISIONS

Part 17 - Value Engineering

1-701 General.

1-701.1 ***Concept***. Value Engineering (VE) is the formal method set forth in an appropriate contract clause by which, during performance of a contract, the contractor may suggest methods for performing the contract more economically and share in any resulting savings or may be required to establish an organization aimed at identifying and submitting to the Government methods for performing the contract more economically. Value Engineering is concerned with the elimination or modification of anything that contributes to the cost of a contract item or task but is not necessary for needed performance, quality, maintainability, reliability, safety or interchangability, i.e., without impairing essential functions or characteristics. Value Engineering is synonymous with Value Analysis and Value Management insofar as it signifies a cost reduction method in Government contracts. The entire Value Engineering concept is aimed at finding areas of cost reduction in the contract. Specifically, VE constitutes a systematic and creative effort, not required by any other provision of the contract, directed toward analyzing each contract item or task to ensure that its essential function is provided at the lowest over-all cost. Over-all cost may include, but need not be limited to, the costs of acquiring, operating, and logistically supporting an item or system.

1-1701.2 ***Policy.*** It is the policy to provide contractors with a substantive financial incentive to undertake VE on the premise that both Government and the contractor will benefit. Accordingly, the contractor should be assured (i) that the Government will provide objective and expeditious processing of proposals submitted and (ii) that if a proposal is accepted he will receive a fair share of the savings. It is also the Government's policy to encourage subcontractor participation through extension by prime contractors of VE incentives to appropriate subcontractors. VE incentive payments do not constitute profit or fee subject to the limitations imposed by 10 U.S.C. 2306(d) (see 3-405.6(c)(2)).

1-1702 ***Types and Uses of VE Clauses.*** To achieve tangible results through the uses of VE programs, two types of clauses are used. The first type is the Value Engineering Incentive clause (VEIC) which sets forth (i) the methods by which the contractor may submit a Value Engineering Change Proposal (VECP), (ii) how the Government is to process the VECP, and (iii) how any resulting cost reduction is to be shared between the Government and the contractor. Submission of VECPs under the clause is left entirely to the contractor. The second type of clause is the Value Engineering Program Requirement clause. This clause requires the contractor to establish a Value Engineering Program and may provide for incentive sharing. The Value Engineering Program requirement appears as a separate funded line item in the contract and the contractor is reimbursed for it. The contractor is required to submit to the contracting officer any VECP resulting from the required program.

1-1702.1 ***VE Incentive Clause for Supplies and Services.***

(a) Except as provided in (b) and (c) below, one of the VE clauses set forth in 7-104.44, 7-204.32, or 7-1903.51 (depending upon the type of contract) shall be included in every supply or service contract of $100,000 or more and may be included in contracts under $100,000 if the contracting officer sees a potential for significant savings.

(b) The clause shall not be included in the following contracts unless authorized by the Chief of the Purchasing Office:

(I) contracts for research, exploratory development, or advanced development;

(ii) contracts for engineering services from "not-for-profit" organizations;

(iii) contracts for architect-engineer services;

(iv) contracts containing a VE Program Requirement clause except as provided by 1-1702.3(b) below;

(v) contracts providing for product or component improvement unless VE Incentive clause application is restricted to areas not covered by provisions for product or component improvement.

(vi) contracts for commercial items (see 3-807.7(b) being procured without invoking special military requirements and specifications (such as packaging specifications); and

(vii) contracts for personal services.

(c) This clause may be excluded from contracts of $100,000 or more when the Head of the Procuring Activity (HPA) determines that there is minimal potential for cost reduction through VE.

1-1702.2 ***VE Incentive Clause for Construction Contracts.*** The clause set forth in 7-602.50 shall be included in all fixed-price construction contracts of $100,000 or more. Cost-reimbursement construction contracts may include the Value Engineering Incentive clause. See 7-606.24.

1-1702.3 ***Program Requirement Clause.***

(a) The objective of the clause in 7-104.44(b) is to reduce development, production, or use costs by requiring the contractor to establish a VE program in accordance with MIL-V-38352 or as otherwise specified in the contract. The clause shall be used when a sustained VE effort at a specified level is desired. The VE program requirement shall be shown as a separately priced line item in the contact and may apply to all or to select phases of contract performance. This clause is designed primarily for contracts covering conceptual', validation and full-scale development phases of a program. It may also be used in production or service contracts.

(b) If this clause is restricted to well-defined areas of performance under the contract, a VE Incentive clause consistent with 1-1702.1 shall be included for the remaining requirements of the contract. If a Value Engineering Program Requirement clause is included in an architect-engineer contract, no VE sharing provisions will be included.

1-1703 Types of Savings to be Shared. The two types of savings to be shared between the Government and the contractor as the result of accepted value engineering change proposals are acquisition savings and collateral savings.

1-1703.1 ***Acquisition Savings*** are those which accrue from the application of value engineering change proposals to contracts for supplies or services. Acquisition savings include instant, concurrent, and future contract savings (see paragraph (e) "Sharing " of the clause in 7-104.44(a)(1)).

(a) Instant contract savings are those measurable net cost reductions on the contract under which the value engineering change proposal was submitted by the contractor and accepted by the Government. In the case of requirements or other indefinite delivery type contracts, basic ordering agreements, multi-year contracts, fixed-price contracts providing for prospective price redetermination, or contracts in which supplemental agreements or other modifications increase the quantity of items or add items to the contract, see paragraph (j) of the clause in 7-104.44(a)(1) for the appropriate definition of "*instant contract*".

(b) Concurrent contract savings are those measurable net reductions in the price of a concurrent contract. For purposes of Value Engineering, a concurrent contract is a contract which has been let by the same procuring activity for essentially the same item but which is other than the contract under which the VECP was accepted by the Government.

(c) Future contract savings are either (i) those measurable net reductions in the price of a future contract (other than the contract under which the value engineering change proposal was accepted) let by the same procuring activity for essentially the same item or (ii) a lump sum payment paid to the contractor at the time the value engineering change proposal is accepted and based upon estimated future applications of the accepted VECP in future contracts let by the same procuring activity for essentially the same item. Such savings are generally computed based upon the unit cost reduction under the instant contract without deducting any cost of development or implementation.

(d) On instant and future contracts, the contractor's the contractor's profit/fee shall be excluded when calculating the net savings.

1-1703.2 ***Collateral Savings*** are those measurable net reductions in the cognizant Military Department's overall, documentable projected costs of operation, maintenance, logistic support, or Government-furnished property, when such savings result from the VECP submitted by the contractor, whether or not there is any change in the acquisition cost (see paragraph (e)(4) of the clause in 7-104.44(a)(1)). This paragraph (e)(4) may be excluded from a contract or class of contracts when the HPA determines that the cost of computing and tracking collateral savings will exceed benefits to be derived.

1-1704 Sharing Arrangements.

1-1704.1 ***Sharing Rates.***

(a) ***Acquisition savings rates.*** Depending upon the type of contract (i.e., fixed-price, cost-reimbursement, etc.), the clauses to be used in supply and service contracts (excluding construction) use fixed sharing rates for all acquisition savings; i.e., for instant concurrent, and future savings for supply and service contracts. These sharing rates also differ depending upon the type of VE clause under which the accepted VECP was developed. That is, one set of rates applies if the change was developed under a VEIC while the other set applies if the change was developed under a VEPRC. These sharing rates do not apply to the sharing of acquisition savings under construction contracts. The sharing rates area as follows:

TYPE OF CONTRACT	VALUE ENGINEERING INCENTIVE CLAUSE (Government/Contractor)	VALUE ENGINEERING PROGRAM REQUIREMENT CLAUSE (Government/Contractor)
Fixed-Price (Other than Incentive)	50/50	75/25
Fixed-Price-Incentive (FPI) or Cost-Plus-Incentive-Fee (CPIF)	65/35	80/20
Cost-Plus-Award-Fee (CPAF)	75/25	85/15
Cost Reimbursement (other than CPIF and CPAF)	75/25	85/15

(b) ***Collateral savings rates***. The contractor's share of collateral savings is 20 percent of the estimated savings to be realized during an average or typical year of use, as determined by the Purchasing Office except that such share shall not exceed the price of the contract on which the VECP is submitted or $100,000, whichever is greater.

(c) ***Optional clause***. The VE clauses in 7-104.44 and 7-204.32(b) (as applicable to supply contracts), (specifically the sharing provisions of paragraph (e) thereof), may be modified when used in incentive contracts to provide for the sharing of VE instant contract savings in the same ratio as the contract incentive share ratio, with no adjustment to targets or ceilings when a VECP is approved. This modification permits instant VE savings to be rewarded under the overall contract cost incentive. Appropriate substitute clause language is in 7-104.44(a)(6) and 7-204.32(d). Concurrent and future contract rates shall be the same as those specified in (a) above, unless modified in accordance with 1-1704.5.

1-1704.2 ***Acquisition Sharing Base***. The sharing base for acquisition savings is defined to be the affected end items on contracts of the purchasing office or its successor approving the VECP. This base may be expanded to include contracts of other purchasing offices. Such expansion of the base shall be specified in the contract. For future acquisition savings where the contractor receives a lump sum, the sharing base is an estimated number of items.

1-1704.3 ***Sharing Period***.

(a) The contractor shall share in the savings on all affected end items scheduled for delivery not later than 3 years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. The contractor shall be responsible for maintaining adequate records to identify the first unit delivered which incorporates the applicable VECP. These records must be maintained for a period of three years after final payment on the contract under which the VECP was accepted. For the purpose of establishing the starting date of the sharing period, the contractor shall identify the first unit incorporating the VECP on the applicable DD-250. Material Inspection and Receiving Report.

(b) When the contract is for items which require an extended period of time for production (e.g., ship construction), it may be desirable to provide for future sharing on times accepted under all contracts for essentially the same item awarded within the sharing, even if the scheduled delivery date is outside the sharing period.

1-1704.3 ***Methods of Sharing for Future Acquisitions***.

(a)***Methods***. There are two methods of sharing future acquisition savings, i.e., the future payment method and the lump sum method. With respect to the future payment method, the clause in 7-104.44(a)(1) provides for contractor sharing in savings by the purchasing office, of its successor, on future purchases of essentially the same end item utilizing the VECP. Payments are not made until such future contracts are actually awarded. The lump sum method, which is optional, provides for a single payment at the time of VECP approval by a contract modification, based upon estimated application of the VECP to other projected procurements by the purchasing office or its successor (i.e., five-year plan, or other suitable projection). To use the lump sum method, substitute the paragraph entitled "(3) Future contracts (lump sum)" in 7-104.44(a)(4) for paragraph (e)(3) of the clause in 7-104.44(a)(1). In deciding whether to use the lump sum method, the contracting officer shall consider:

(i) the accuracy with which the number of items to be procured during the sharing period can be estimated and the probability of actual production of the projected procurements;

(ii) the availability of funds for a lump sum payment;

(iii) whether disclosure of estimated future requirements would compromise national security; and

(iv) the administrative expense of using the future payment method.

(b) ***Calculations***. The contractor's share of future acquisition savings is based upon the sharing percentage (specified in the clause), the unit cost reduction, and the number of units involved. The calculations are in the clauses in 7-104.44(a). However, the contracting officer should carefully select the definition of the future contracts unit cost reduction to be used. Normally this is the unit cost reduction in the instant contract without considering any cost of contractor development and implementation (see paragraph (e)(3)(i) of the clauses in 7-104.44(a)(1),(2),(3) or (4)). However, if significant future contract unit cost changes (e.g., item still in design or early production, or significant changes in the rate of production) are expected, it may be desirable to reflect this in the clause by substituting the definition in 7-104.44(a)(5).

1-1704.5 ***Relationship to Design to Cost and Other Incentives***. It is DoD policy to offer the fullest possible rang e of motivation to contractors while precluding duplication of incentives. Such incentives include those relating to performance and design to cost (production unit cost, operating and support (O&S) costs, and reliability and maintainability (R&M)). The relationship of VE to these incentives is contained in subparagraph (k) of the clause in 7-104.44(a)(1).

1-1705 Submission and Processing.

(a) Instructions for submission and processing VECPs are provided in the clauses in 7-104.44 and 7-602.50 (see also MIL-STD and 481).

(b) PCOs and ACOs shall expedite evaluation and disposition of the VECP. If the evaluation period is likely to exceed 45 calendar days, the PCO shall promptly notify the contractor of the estimated decision date and provide the reasons for the additional time required. If the VECP is not accepted, written, notification supporting the rejection will be provided the submitter. When the contract is administered by other than the purchasing office, a copy of all correspondence is administered by other than the purchasing office, a copy of all correspondence regarding the VECP will be forwarded to the ACO.

1-1706 Future Payment Funding and Notice for Future Acquisition Contracts. The future payments will be made pursuant to the contract under which the VECP was accepted; however, they shall be funded from the appropriation supporting any succeed contract which utilized the VECP. In order to provide guidance on the proper citation of appropriations, insert the following notice in each contract for additional purchase of items on which future payments will be made. The notice should be inserted directly following the citation of appropriation and accounting date or, if space does not permit such insertion, the notice should be referred to there.

> "Notice of Value Engineering Payments. Award of this contract obligates the Government to make payments to the contractor under Contract No. * in accordance with the Value Engineering provisions of that contract. These payments are to be made from appropriations currently available for the procurement of items under this contract. To the extent that the Government does not, in fact, receive delivery of and accept all items on which payment is made, the Government from the contractor to whom it was paid."

* Insert the number of the contract under which the pertinent VE change proposal was accepted.

1-1707 Contracting Officer Decision Check List. Application of the clauses in 7-104.44(a) to a specific contract requires at least two decisions by the contracting officer, i.e., whether a Value Engineering clause should be used, and if so, which clause (see 1-1702). Additional decisions may be made to vary the clause to fit the individual contract at hand.

(a) *Additional Decisions to Modify Coverage:*

(1) If this is an incentive type contract, should the modified instant sharing be used? See 1-1704.1(c).

(2) Should the sharing base be expanded? See 1-1704.2.

(3) Should the sharing period be modified? See 1-1704.3(b).

(4) Should the lump sum method of payment be used for future acquisition sharing? See 1-1704.4(a).

(5) Should the clause for future acquisition sharing be modified to reflect major differences in instant contract unit cost reduction and future contract unit cost reduction? See 1-1704.4(b).

(6) (*Development Contracts Only)* Should the future acquisition sharing be modified to accommodate design to cost requirements or incentives? See 1-1704.5.

(7) Should collateral savings be omitted? See 1-1703.2.

(b) In addition, should the contract be requested to submit notification of a potential VECP prior to risking significant expenditures? (Note this can be invoked at any time during the contract.) See paragraph (j)(6) of the clause in 7-104.44(a)(1).

(c) *Incorporation by Reference.* The VE clauses in Section VII, are constructed so that they can be incorporated by reference, except for the modification which may be made pursuant to (b)(2),(3) or (6) above

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(c) The requirement for inclusion of the above clauses in contracts with foreign governments or agencies thereof may be waived in exceptional cases by the Head of a Procuring Activity, stating in writing his reasons for such determination.

7-104.43 ***Reserved.***

7-104.44 ***Value Engineering*** **(VE)**

(a) Value Engineering Incentive Clause.

(1) In accordance with 1-1702.1 and 1-1707, insert the following clause in firm fixed-price contracts, fixed-price contracts with economic price adjustment or fixed-price contracts providing for prospective price redetermination:

VALUE ENGINEERING INCENTIVE (1977 SEP)

(a)***Application***. This clause applies to a contractor developed and documented Value Engineering Change Proposal (VECP) which:

(i) requires a change to this contract to implement the VECP, and

(ii) reduces the overall costs to the cognizant Military Department without impairing essential functions or characteristics, provided that it is not based:

(A) solely on a change in deliverable end item quantities: or

(B) a change in R&D end item or test quantities due solely to results of previous testing under this contract, or

(C) solely on a change to the contract type.

(b) ***Documentation***. As a minimum, the following information shall be submitted by the Contractor with each VECP:

(i) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each, justification when a function or characteristic of an item is being altered, and the effect of the change on the performance of the end item;

(ii) an analysis and itemization of the requirements of the contract which must be changed if the VECP is accepted and a recommendation as to how to make each such change (e.g., a suggested specification revision);

(iii) a separate detailed cost estimate for both the existing contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the VECP, taking into account the costs of development and implementation by the Contractor (including any amount attribute to subcontracts in accordance with paragraph (h) below);

(iv) a prediction of any effects the proposed change would have on collateral costs to the Military Department such as Government-furnished property costs, costs of related items, and costs of maintenance and operation;

(v) a statement of the time by which a contract modification accepting the VECP must be issued to as to obtain the maximum cost reduction, noting any effect on the contract completion time or delivery schedule; and

(vi) identification of any previous submission of the VECP, including the dates submitted, the agencies involved, the numbers of the Government contracts involved, and the previous actions by the Government, if known.

(c) ***Submission***. VECPs shall be submitted to the Procuring Contracting Officer (PCO). When the contract is administered by other than the purchasing office, a copy of the VECP shall be submitted simultaneously to the Administrative Contracting Officer (ACO). VECPs shall be processed expeditiously, however, the Government shall not be liable for any delay in acting upon any VECP submitted pursuant to this clause. If the evaluation period is likely to exceed forty-five (45) calendar days, the PCO shall promptly notify the Contractor of the estimated decision date and provide the reasons for the additional time required. The Contractor has the right to withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP.

(d) ***Acceptance***. The Contracting Officer may accept, in whole or in part, by contract modification either before or within a reasonable time after performance has been completed under this contract, any VECP submitted pursuant to this clause. Until a contract modification applies a VECP to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. Contract modifications made pursuant to this clause will so state the d of the Contracting Officer as to the acceptance of any VECP under this contract (including the decision as to which clause is applicable to the proposal of this contract contains both a "Value Engineering Incentive" and a "Value Engineering Program Requirement" clause shall be final and shall not be subject to the "Disputes" clause of this contract.

(a) ***Sharing***. If a VECP submitted by the Contractor pursuant to this clause is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculation and Actions:

(A) Calculate GS and ICS.

(B) If ICS exceeds GS, calculate fifty percent (50%) (Government share) of the sum of ICS and GS, i.e., (.5 (ICS plus GS)), unless this is a VE Program Requirement Change (VEPRC), in which case calculate (.75 ICS plus .25 GC). In either case, subtract the result from the contract price.

(C) If GS exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, reduce the instant contract price by the amount of ICS and offset the amount by which GS exceeds ICS against concurrent or future savings.

(D) If the Contractor's cost of developing and implementing the VECP would result in an increase in the instant contract price, but the VECP is still desirable due to concurrent or future savings, equitably adjust the instant contract price in accordance with the "Changes" clause. In addition, offset the increase in the instant contract price and any GS against concurrent or future contract savings.

(E) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items, the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reductions in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract form the total amount in (A) any government costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) and (D) above, and any increase in the instant contract price, i.e., if ICS was negative in (e)(1)(ii)(D). If the resulting number is positive, multiply it by fifty percent (50%) (25% if this is a VEPRC). Add the amount to the instant contract price.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three (3) years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:

"This is the initial unit delivered which incorporates VECP No.___Contract Modification No.___ , dated___."

(iii) Calculations. At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (D), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by fifty percent (50%) (25% if this is a VEPRC) and add the result to the instant contract price.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated) and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. However, such increase representing the Contractor's share of collateral savings shall, in no event exceed the price of this contract or $100,000, whichever is greater. The determination of the amount of collators' savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract, in all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(f) *Payment.* The Contractor's concurrent and future contract shares should be pain upon modification of concurrent contracts or future contract award, or within six (6) months thereafter. However, any such payments are subject to the condition that to the extent the Government does not receive delivery of and accept all items on which the share is paid, the contractor shall reimburse the Government the proportionate share of the payments. If this clause is modified to provide for lump sum payments, such payments shall be made upon modification of the instant contract.

(g) *Operation and Maintenance Contracts.* If this is a contract for overhaul or maintenance (including repair, alteration, modification or modernization), the Contractor will be paid a share of "Future contract savings realized by the Government only on overhaul and maintenance of the designated items accomplished by purchase, under contract, by the designated purchasing office. Only collateral savings will be paid on application of accepted VECPs to overhaul and maintenance of items within Government resources.

(h) *Subcontracts*. The Contractor shall include appropriate VE arrangements in any subcontract of $100,000 or greater, and may include such arrangements in contracts of lesser value. To compute any adjustment in the contract price under paragraph (e)(1) above, the Contractor's cost of development and implementation of a VECP which is accepted under this contract shall include any development and implementation costs of a subcontractor and any VE incentive payments to a subcontractor, which clearly pertain to such VECP. However, no such payment or accrual to a subcontractor will be permitted, either as a part of the contractor's development or implementation costs or otherwise, to reduce the Government's share on collateral savings or additional purchases as contemplated by paragraphs (e)(2), (1) or (4) of this clause.

(i) *Data.* The Contractor may restrict the Government's right to use any sheet of a VECP or of the supporting data, submitted pursuant to this clause, in accordance with the terms of following legend if it is marked on such sheet:

> "This data furnished pursuant to the Value Engineering clause of contract.........shall not be disclosed outside the Government, or duplicated, used or disclosed, in whole or in part, for any purpose other than to evaluate a VECP submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the Contractor or from another source, without limitations."

In the even of acceptance of a VECP, the Contractor hereby grants to the Government unlimited rights, as defined in the clause of ASPR 7-104.9(a), in the VECP and supporting data, except that, with respect to data which qualifies as and is submitted as limited rights technical data in accordance with the clause of ASPR 7-104.9(a), the Government shall have the rights specified in the contract modification referred to in paragraph (d) hereof and the data shall be appropriately marked.

(j) *Miscellaneous Provisions.*

(1) For purposes of sharing under paragraph (e)(1) above, the term "instant contract" shall not include nay modifications of the instant contract, executed after acceptance of the particular VECP, by which the Government increases the quantity of any item or adds any item, nor shall it include any extension of the instant contract through exercise of an option provided under this contract after acceptance of the VECP. Such modifications and extensions shall be considered "future contracts" within the provisions of paragraph (e)(3) of this clause.

(2) If this is an indefinite delivery type contract, the term "instant contract" for purposes of sharing under paragraph (e)(1) above shall include only those orders actually placed by the Government up to the time the particular VECP is accepted. All orders placed subsequent to the acceptance of this particular VECP shall be considered "future contracts" within the provisions of paragraph (e)(3) of this clause.

(3) If this clause is included in a basic ordering agreement, the term "instant contract" for purposes of sharing under paragraph (e)(1) above, shall be the order under which the particular VECP is approved. Other orders under the same agreement shall be considered either "concurrent contracts" (if awarded prior to acceptance of the VECP) or 'future contracts' (if awarded after acceptance of the VECP), within the provisions of paragraph (e)(2) or (e)(3) of this clause, respectively.

(4) If this clause is included in a multi-year contract, the term "instant contract" for the purpose of sharing under paragraph (e)(1) above, shall be the funded contract at the time the VECP is approved, and items purchased under subsequent funding under this contract shall be treated under this future contract VE sharing provisions in paragraph (e)(3) of this clause. The sharing period shall be the entire life of the multi-year contract, or three (3) years after delivery of the first item incorporating the VECP, whichever is longer.

(5) If this clause is included in a fixed-price contract providing for prospective price redetermination, the term "instant contract" for purposes of sharing under paragraph (e)(1) above shall be that period for which firm prices have been established. The remaining periods under this contract shall be treated under the future contract VE sharing provisions in paragraph (e)(3) of this clause.

(6) The Contracting Officer may require the Contractor to provide written notification prior to undertaking significant expenditures for VECP effort.

(k) *Relation to other incentives.* Those benefits of an approved VECP which are not rewards under performance, design to cost (production unit cost, operating and support (O&S) costs, reliability and maintainability (R&M)) no similar incentives of the contract shall be rewarded under subparagraph (e) of this clause. The targets of such incentives affected by the VECP shall not be adjusted because of the acceptance of the VECP. If the contract does not provide such incentives to better specified targets, the VE sharing shall apply only to the amount of achievement better than target.

(End of Clause)

(a)(2) In fixed-price incentive (firm target) contracts, substitute the following "Sharing" provision for paragraph (e) of the clause in (1) above:

(e) Sharing. If a VECP submitted by the Contractor pursuant to this clause and affecting any of the issues described in paragraph (a) of the "Incentive Price Revision (Firm Target)" clause of this contract is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development are implementation costs include any subcontractor development and implementation costs and any subcontractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD which directly result from development and implementation of the VECP, such a test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculations and Actions.

(A) If there is a reduction in costs, reduce the total target cost of items affected by the VECP by ICS. If there is an increase in cost, see (E) below.

(B) If ICS exceeds GC, add 35% (20% If that is a VE Program Requirement Change (VEPRC)) of the excess to total target profit relating to such items.

(C) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust total target profit relating to such items, and offset the amount by which GC exceeds ICS against concurrent or future contract savings.

(D) Subtract 65% (80% if this is a VEPRC) of ICS from the maximum dollar limit on the total final price of such items.

(E) If the Contractor cost of developing and implementing the VECP would result in an increase in the instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the total target cost, total target profit and maximum dollar limit on the total final price of the items affected by the VECP in accordance with the "Changes" clause. Offset the increase and any GC against concurrent or future savings.

(F) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any government costs not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) or (E) above, and any increase in the instant contract price, i.e., if ICS was negative in (e)(1)(ii)(E). If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than 3 years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement.
"This is the initial unit delivered which incorporates VECP No._______, Contract Modification No. _______, dated ."

(iii) Calculations. At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (E) or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 35% (20% of VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable so incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated), and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. However, such increase representing the Contractor's share of collateral savings, shall, in no event, exceed the price of this contract or $100,000, whichever is greater. The determinance of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department. (1976 JUL)

(End of clause paragraph)

(a)(3) In fixed-price incentive (successive target) contracts, substitute the following "Sharing" provision for paragraph (e) of the clause in (1) above.

(e)Sharing. If a VECP submitted by the Contractor pursuant to this clause and affecting any of the items described in paragraph (a) of the "Incentive Price Revision (Successive Target)" clause of this contract is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such a test and evaluation of the VECP, and any increased costs in DoD operations, maintenance and logistic support.

(ii) Calculations and Actions.

(A) If the VECP is accepted and applied to this contract before the establish of a firm fixed price in accordance with paragraph (c) of the "Incentive Price Revision (Successive Targets)" clause of this contract:

(i) If there is a reduction in cost, reduce the then total target cost of items affected by the VECP by ICS. If there is an increase in cost see (V) below.

(ii) If ICS exceeds GS, add 35% (20% if this is a VE Program Requirements Change (VEPRC)) of the excess to the then target profit relating to such items (if a firm profit adjustment formula is established in accordance with paragraph (a) of the "Incentive Price Revision (Successive Targets)" clause of this contract, the above percentage may be modified for application to VE cost reduction proposals, submitted pursuant to this clause, which are accepted under this contract after the establishment of said formula).

(iii) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust the then target profit, and offset the amount GC exceeds ICS against concurrent of future contract savings.

(IV) Subtract 65% (30% if this is a VEPRC) of ICS from the maximum dollar limit on the total final price of such items.

(V) If the Contractor cost of developing and implementing the VECP would result in an increase in the then instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the then total target cost, the then target profit, and the then maximum dollar limit on the total final price of the items affected by the VECP in accordance with the "Changes" clause. Offset the increase and any GC against concurrent or future savings. (If a firm profit adjustment formula is established in accordance with paragraph (a) of the "Incentive Price Revision (Successive Targets)" clause of this contract, and the VECP significantly increases the target cost, the above percentage may be modified for application to the VECPs, submitted pursuant to this clause, which are accepted under this contract after the establishment of said formula).

(B) If the VECP is accepted after the establishment of a firm fixed price in accordance with paragraph (c) of the "Incentive Price Revelation (Successive Targets)" clause of this contract:

(i) Calculate GC and ICS.

(ii) If ICS exceeds GS, calculate 50% (Government share) of the sum of ICS and GC, i.e., (.5 (ICS plus .25 GC)), unless that is a VE Program Requirement Change (VEPRC), in which case calculate (.75 ICS plus .25 GC). In either case, subtract the result from the contract price.

(iii) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, reduce the instant contract price by the amount of ICS and offset the amount by which GC exceeds ICS against concurrent or future savings.

(IV) If the Contractor's cost of developing and implementing the VECP would result in an increase in the instant contract price, but the VECP is still desirable due to concurrent or future savings, equitably adjust the instant contract price in accordance with the "Changes" clause. In addition, offset the increase in the instant contract price and any GC against concurrent or future contract savings.

(C) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items, the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset of GC was greater than ICS in (e)(1)(ii)(A)(iii) or (V) or (e)(1)(ii)(B)(IV). If the resulting number is positive, and the VECP was accepted under paragraph (e)(1)(ii)(A) multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. If the resulting number is positive, but the VECP was accepted under paragraph (e)(1)(ii)(B), multiply it by 50% (25% of this is a VEPRC), and add this amount to the instant contract price.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:
"This is the initial unit delivered which incorporates VECP No._____, Contract Modification No.________ , dated ."

(iii) Calculations, at the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(A)(iii) or (V), or (e)(1)(ii)(B)(iii) or (IV), or in (e)(2)(ii)(B), or in contracts awarded since acceptance of the VECP. If the resulting number is positive, and the VECP was accepted under paragraph (e)(1)(ii)(A), multiply it by 35% (20% if this was a VEPRC). In either case, add the amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support of Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the changes or reduction of Government-furnished property under the instant contract. Add this amount to the instant contracts a separate line item independent of the incentive sharing arrangement and without adjustment to separate line item independent of the incentive parameters. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of this contract of $100,000.

whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract in all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department. (1976 JUL)

(End of clause paragraph)

(a)(4) In accordance with 1-1704.4, substitute the following provisions for paragraph (e)(3) "Future Contracts" of the clause in (1) above for use of the Lump Sum Method of payment for future contract sharing:

(3) Future Contracts (Lump Sum).

(i) Definition. The term unit cost reduction for lump sum sharing purposes shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If a VECP accepted under this contract is expected to be used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on the purchases which the purchasing office estimates will be delivered not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later.

(iii) Lump Sum Base. The number of items the Government estimates will be delivered during the period specified in (ii) above is.......... (insert the number of units).

(iv) Calculations and Actions.

(A) Multiply the unit cost reduction in (i) by the number of units specified in (iii) above.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset (if GC was greater than ICS) and any increase in the instant contract price, i.e., if ICS was negative. If the resulting number is positive, multiply it by the Contractor percentage share. Add this amount to the instant contract.

(End of clause paragraph)

(a)(5) With respect to the future contract sharing provisions paragraph (e)(3) of the clause in (1) above, or as those provisions may be modified by the lump sum provisions in (4) above, when, in the judgment of the Contracting Officer, the unit costs under the instant contract will not be fairly representative of the unit costs to be expected under future contracts due for example to learning curve application (as will generally be the case with developmental or design contracts and may be the case with early production contracts), the definition in paragraph (e)(3)(i) shall be changed as follows:

(i) Definition. The term "unit cost reduction" for future contract purposes shall be the average amount of the decrease in unit cost of performance (without deducting any Contractor costs of development or implementation) which the Contracting Officer estimates will result from utilization of the VECP on future purchases of the item. The item for design contracts will be the item to be produced as a result of the design process.

(End of clause paragraph)

(a)(6) When the sharing provisions applicable to incentive contracts are to be modified in accordance with 1-1704.1(c), clause paragraph (e) in (a)(2) or (a)(3) above, whichever is applicable, shall be further modified as follows:

(a)(6)(i) Modification to clause paragraph (c) of (a)(2):

(a)(6)(i)(A) Change clause paragraph (e)(1)(ii) to provide substantially as follows:

(ii) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason for the acceptance of such proposal. The new requirement will be incorporated into the contract by a contract modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes Clause* rather than under this clause, but the resulting contract modifications will state that it is made pursuant to this clause (1976 FEB)

(End of clause paragraph)

(a)(6)(i)(B) Change clause paragraph (e)(2)(ii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs not yet offset and any increase in the instant contract price. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii) Modifications to clause paragraph (e) of (a)(3) above:

(a)(6)(ii)(A) Change clause paragraph (e)(1)(ii)(A) to provide substantially as follows:

(A) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason of the acceptance of such proposal. The new requirement will be incorporated into the contract by a modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes* clause rather than under this clause, but the resulting contract modification will state that it is made pursuant to this clause. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii)(B) Change clause paragraph (c)(2)(ii)(B) to provide substantially as follows:

(A) Subtract from the total amount in (A) any government costs not yet offset and any increase in the then instant contract target cost. If the resulting number is positive, and the VECP was accepted before establishment of a firm fixed price under the instant contract, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. If the resulting number is positive, but the VECP was accepted after establishment of the firm fixed price under the instant contract, multiply it by 50% (25% of this is a VEPRC), and add this amount to the instant contract price. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii)(C) Substitute the definition in (a)(5) above for the definition in clause paragraph (e)(3)(i).

(a)(6)(ii)(D) Change clause paragraph (e)(3)(iii)(B) to provide substantially as follows:

(B) Subtract from the total amount tin (A) any government costs or instant contract increases not yet offset. If the resulting number is positive, and the VECP was accepted before establishment of the firm fixed price under the instant contract, multiply it by 35% (20% if this was a VEPRC). If the resulting number is positive, but the VECP was accepted after establishment of the fir fixed price under the instant contract, multiply it by 50% (25% if this was a VEPRC). In either case, add the amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB).

(End of clause paragraph)

7-104.44(b)

(b) Value Engineering Program Requirement. In accordance with 1-1702.3 insert the following revised contract clause title and paragraph (a) of the clause in (a)(1) above:

VALUE ENGINEERING PROGRAM REQUIREMENT (1974 APR)

(a) The Contractor shall engage in a value engineering program in accordance with MIL-V-38352 or other requirements as specified by the Contracting Officer, shall submit progress reports thereon as specified in the contract and shall submit to the Contracting Officer any value engineering change proposals (VECPs) resulting from the required program. This clause applies to all VECPs developed by the Contractor unless the Contracting Officer determines the proposal to be rewardable under the "Value Engineering Incentive" clause (if any) of this contract, which:

(i) require a change to this contract to implement the VECP, and

(ii) reduced the overall costs to the cognizant Military Department, without impairing essential functions or characteristics, *provided* that they are not based.

(A) solely on a change in deliverable end item quantities; or

(B) a change in R&D end item or test quantities due solely to results of previous testing under the contract; or

(C) solely on a change to the contract type

(End of clause paragraph)

Paragraphs (b) through (j) of the clause set forth in (a)(1) above shall be included as part of the VE Program Requirements clause except that, the guidelines in (a)(2) through (a)(5) above shall also be applicable.

7-104.45 *Limitation of Liability*

(a) In accordance with I-330, insert the following clause.

TAXES (1960 JUL)

Any tax or duty from which the United States Government is exempt by agreement with the Government of , or from which the Contractor or any subcontractor hereunder is exempt under the laws of , shall not constitute an allowable cost under the contract.

(End of clause)

(b) *Foreign Government as Contractor*. In accordance with 11-403.2(d), insert the following clause.

TAXES (1960 JUL)

Any tax or duty from which the United States Government is exempt by agreement with the Government of...........or from which any subcontractor hereunder is exempt under the laws of.........., shall not constitute an allowable cost under this contract.

(End of clause)

7-204.25 *Advance Payments.* When advance payments are to be made in accordance with Appendix E, Part 4, insert the appropriate clauses in 7-104.34.

7-206.26 *Frequency Authorization.* In accordance with 7-104.61, insert the clause therein.

7-204.27 *Required Source for Jewel Bearings, and Related Items.* In accordance with 1-2207.2, insert the clause in 7-104.37.

7-204.28 *General Services Administration Supply Sources.* In accordance with 5-909, insert the following clause.

GENERAL SERVICES ADMINISTRATION SUPPLY SOURCES (1977 AUG)

The Contracting Officer may issue the Contractor an authorization to utilize General Services Administration supply sources for property to be used in the performance of the contract. All property acquired under such an authorization shall be subject to the provisions of the clause of this contract entitled *"Government Property"*, except paragraphs (a) and (b) thereof.

(End of clause)

7-204.29 *Special Termination Costs*. In accordance with 8-712, insert the clause in 7-108.3.

7-204.30 *Interest.* In accordance with E-620, insert the clause in 7-104.39.

7-204.31 *United States Products (Military Assistance Program).* In accordance with 6-703.4, insert the clause in 7-2003.51.

7-204.32 *Value Engineering.*

(a) *Use of the Incentive and Program Requirement Clauses.* In accordance with 1-1702 and 1-1707, insert the applicable clause or clauses in 7-104.44(a) and (b), as modified in (b) or (c) below.

(b) *Cost-Plus-Incentive-Fee Contracts.* Substitute the following "Sharing" provision for paragraph (e) of the applicable clause in 7-104.44(a) and (b):

(e) Sharing. If a VECP submitted by the Contractor pursuant to this clause is accepted, the Contractor shall share in the savings realized by the Government in accordance with the following provisions:

(1) Instant Contract

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific value engineering project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculations and Actions:

(A) Reduce the target cost of items affected by the VECP by ICS. The estimated cost for "limitation of cost" or "limitation of funds" purposes (7-203.3), if different of separately stated, should also be reduced by the same amount.

(B) If ICS exceeds GC, add 35% (20% if this is a VE Program Requirement Change (VEPRC)) of the excess to minimum, target, and maximum fees relating to such items.

(C) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust minimum, target or maximum fees, but offset the amount GC exceeds ICS against concurrent or future contract savings.

(D) If the Contractor cost of developing and implementing the VECP would result in an increase in the instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the total target cost and fee in accordance with the "Changes" clause. Offset this increase and any GC against concurrent of future savings.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) or (D) above, and any increase in the instant contract target cost, i.e., if ICS was negative in (e)(1)(ii)(D). If the resulting number is positive, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same items by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:
"This is the initial unit delivered which incorporates VECP No._____ , Contract Modification No._______, dated ."

(iii) *Calculations.* At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (D), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) *Collateral Savings.* If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated) and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of this contract or $100,000, whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the 'Disputes' clause of this contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(End of clause paragraph)

(c) Cost-Plus-Fixed Fee and Cost-Plus-Award-Fee Contracts. Substitute the following "Sharing" provision for paragraph (e) of the applicable clause in 7-104.44(a) and/or (b):

(e) *Sharing.* If a VECP submitted by the Contractor pursuant to this clause is accepted the Contractor shall share in savings realized by the Government is accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific value engineering project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operation, maintenance, and logistic support.

(ii) Calculations and Actions

(A) If ICS exceeds GC, add 25% (15% of this is a VE Program Requirements Change (VEPRC) of the excess to the contract fee), and reduce the estimated cost of the items affected by the VECP, for "limitation of cost" or "limitation of funds" purposes (7-203.3), by ICS.

(B) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust contract fee, but offset the amount GC exceeds ICS against concurrent or future savings.

(C) If the Contractor cost of developing and implementing the VECP would result in an increase in instant contract cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the estimated cost and fee in accordance with the "Changes" clause. Offset this increase and any GC against concurrent or future savings.

(2) *Concurrent Contracts.*

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government Costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(B) or (C) above, and any increase in the instant contract price, i.e., if ICS was negative in (e) (1)(ii)(C). If the resulting number is positive, multiply it by 25% (15% if this is a VEPRC). Add this amount to the contract fee.

(3) *Future Contracts.*

(i) Definition: The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspections and Receiving Report, which applies to the initial unit covered by the VECP with the following statement: "this is the initial delivered which incorporates VECP No. ,Contract Modification No. , Date ."

(iii) *Calculations.* AT the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(B) or (C), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 25% (15% if this is a VEPRC).

(4) *Collateral Savings*. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government'-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of used of the item in which the change is incorporated)

and if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of the contract or $100,000, whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of the contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(End of clause paragraph)

(d) When the sharing provisions applicable to incentive contracts are to be modified in accordance with 1-1704.1(c), clause paragraphs (c) in (b) above shall be further modified as follows:

(i) Change clause paragraph (e)(1)(ii) to provide substantially as follows:

(ii) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason of the acceptance of such proposal. The new requirement will be incorporated into the contract by a contract modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes* clause rather than under this clause, but the resulting contract modification will state that it is made pursuant to this clause. (1976 FEB)

(End of clause paragraph)

(ii) Change clause paragraph (e)(2)(ii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs not yet offset and any increase in the instant contract target cost. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

(iii) Substitute the definition in 7-104.44(a)(5) for the definition in clause paragraph (e)(3)(i).

(iv) Change clause paragraph (e)(3)(iii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs or instant contract increases not yet offset. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

7-204.33 *Limitation and Liability*

(a) In accordance with 1-330, in the procurement of major items, insert the following clause.

7-602.48 *Reserved.*

7-602.49 *Affirmation Action for Disabled Veterans and Veterans of the Vietnam Ere.* Insert the clause in 7-103.27.

7-602.50 *Value Engineering (VE).* Insert the following clause in all fixed-price type construction contracts of $100,000 or more.

VALUE ENGINEERING INCENTIVE (1977 AUG)

(a) *Application.* This clause applies to a Contractor developed and documentation Value Engineering Change Proposal (VECP) which:

(I) requires a change to this contract to implementation the VECP; and

(ii) reduces the contract price without impairing essential functions or characteristics, provided that it is not based solely on a change in deliverable end item quantities.

(b) *Documentation*. As a minimum, the following information shall be submitted by the Contractor with each VECP.

(I) a description of the difference between the existing contract requirement and the proposed change and the comparative advantages and disadvantages of each justification where functions or characteristics of a work item is being altered; and the effect of the change on the performance of the end item;

(ii) an analysis and itemization of the requirements of the contract which must be changed if the VECP is accepted and a recommendation as to how to make each such change (e.g., a suggested specification revision);

(iii) a separate detailed cost estimate for both the existing contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the VECP, taking into account the costs of development and implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (f) below):

(iv) a prediction of any effects the proposed change would have on related costs to the Military Department such as Government furnished property costs, and costs of maintenance and operation;

(v) a statement of the time by which a change order adopting the VECP must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract completion time or delivery schedule; and

(vi) identification of any previous submission of the VECP, including the dates submitted, the agencies involved, the numbers of the Government contracts involved, and the previous actions by the Government if known.

(c) *Submission.* To expedite a determination, VECPs shall be submitted to the Resident Engineer as the worksite with a copy to the Contracting Officer, Proposals shall be processed expeditiously; however, the Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. If the evaluation period is likely to exceed 45 calendar days, the PCO shall promptly notify the Contractor of the estimated decision date and provide the reasons for the additional time required. The Contractor has the right to withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP.

(d) *Acceptance.* The Contracting Officer may accept, in whole or in part, by contract modification any VECP submitted pursuant to this clause. The Contracting Officer may accept the VECP even though an agreement on price reduction has not been reached has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall remain obligated to perform in accordance with the contract. Contract modifications made pursuant to this clause will so state. The decision of the Contracting Officer as to the acceptance of any VECP under this contract shall be final and shall not be subject to the “Disputes” clause of this contract.

(e) *Sharing.* If a VECP submitted by the Contractor pursuant to this clause is accepted, the contract price shall be adjusted without regard to profit in accordance with the following provisions:

(i) Definition.

(A) Instant contract savings to the Contractor (ICS) are the estimated reduction in the Contractor's cost of performance resulting from the acceptance of the VECP. The proposed cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs (see (f) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance and implementation by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of VECP.

(ii) *Calculations and Actions.* Multiply ICS by 45% and GC by 55%. Add these two results, e.g., (.45 ICS plus .55 GC) and subtract from the contract price.

(f) *Subcontracts.* The Contractor shall include appropriate VE arrangements in any subcontract of $50,000 or greater, and may include such arrangements in contracts of lesser value. To compute any adjustment in the contract price under paragraph (e) above, the Contractor's cost of development and implementation of a VECP which is accepted under this contract shall include any development and implementation costs of a subcontractor, which clearly pertains to such VECP, but shall exclude any VE incentive payments which the Contractor may make whatever VE incentive payment arrangements he chooses with his subcontractors, *provided* that any payments to subcontractors under such arrangements are made form the Contractor's, and not the Government's, share of the savings resulting from the VECP.

(g) *Data.* The Contractor may restrict the Government's right to use any sheet of a VECP or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet:

"This data furnished pursuant to the Value Engineering Incentive clause of contract ...., shall not be disclosed outside the Government, or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a VECP submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the Contractor or from another source, without limitations."

In the event of acceptance of a VECP, the Contractor hereby grants to the Government unlimited rights, as defined in the clause of ASPR 7-104.9(a), in the VECP and supporting data, except that, with respect to data which qualifies as and is submitted as limited rights technical data in accordance with the clause of ASPR 7-104.9(a), the Government shall have the rights specified in the contract modification referred to in paragraph (d) hereof and the data shall be appropriately marked.

(End of clause)

7-602.51 *Affirmative Action for Handicapped Workers.* Insert the clause in 7-103.28.

7-602.52 *Clean Air and Water.* In accordance with 1-2302.2, insert the clause in 7-103.29.

7-602.53 *Payment of Interest on Contractors' Claims.* In accordance with 1-333, insert the clause in 7-104.82.

7-602.54 *Shop Drawings.*

(a) Insert the following clause, with the appropriate additions in (b) and (c) below.

SHOP DRAWINGS (1976 OCT)

(a) The term "shop drawings" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(b) If this contract requires shop drawings, the Contractor shall coordinate all such drawings and review them for accuracy, completeness, and compliance with contract requirements and shall indicate his approval thereon as evidence of such coordination and review Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be

7-1903.43 *Government Delay of Work.* The clause in 7-104.77 may be inserted.

7-1903.44 *Safety Precautions for Ammunition and Explosives.* In accordance with 7-104.29, insert the clause therein.

7-1903.45 *Accident Reporting and Investigation Involving Aircraft, Missiles, and Space Launch Vehicles.* In accordance with 7-104.81, insert the clause therein.

7-1903.46 *Management Systems Requirements*. In accordance with 16-827.1, insert the clause in 7-104.50.

7-1903.47 *Payment of Interest on Contractor's Claims.* In accordance with 1-333, insert the clause in 7-104.82.

7-1903.48 *Cost Accounting Standards.* In accordance with 3-1204, insert the clauses in 7-104.83.

7-1903.49 *Availability of Funds.* In accordance with 1-318, insert one of the clauses in 7-104.91.

7-1903.50 *Capture and Detention.* In accordance with 10-406, insert the clause in 7-104.94.

7-1903.51 *Value Engineering.*

(a) In accordance with 1-1702, insert the appropriate clauses in 7-104.44 modified, as required, to suit the particular procurement involved.

(b) Insert additional paragraph as follows:

( ) Contractor proposals which eliminate, modify or substitute new procedures for contractually required work procedures shall qualify for instant contract savings sharing. If this is a time and material or labor-hour contract, the "effect of the proposal on the Contractor's cost of performance," for purposes of the instant contract sharing paragraph (e)(1) of the clause, shall be determined by (i) multiplying the time per item saved by the elimination, modification, or substitution by the labor-hour rate agreed upon for the workers involved, and then (ii) multiplying the result by the number of items over which the task has been deleted, and (iii) taking late account in the usual manner the Contractor's cost of developing the proposal and of implementing the change, and increased Government costs related to implementing the proposal. (The result under (i) would be the unit cost reduction for purposes of determining future acquisition savings.)

(End of clause paragraph)

7-1903.52 *Buy American Act.* In accordance with 7-104.3, insert the clause therein.

7-1903.53 *Preference for United States Flag Air Carriers.* In accordance with 1-336.1(b), insert the clause in 7-104.95.

7-1903.54 *Privacy Act.* In accordance with 1-327.1, insert the clause in 7-104.96.

7-1903.55 *Preference for Domestic Specialty Metals.* In accordance with 7-104.93, insert the applicable clause therein.

7-1903.56 *Exclusionary Policies and Practices of Foreign Governments.* In accordance with 6-1312, insert the clause in 7-104.97.

7-1903.57 *Hazardous Material Identification and Material Safety Data.* In accordance with 1-323.2(b), insert the clause in 7-104.98.

7-1903.58 *Contract Certification - Wage and Price Standards.* In accordance with 1-341(f), include the clause in 7-104.101.

7-1903.59 *Limitation on Sales Commissions and Fees for Foreign Governments.* In accordance with 6-1305.6, insert the clause in 7-104.107.

7-1904 *Additional Clauses for Use in Fixed-Price Service Contracts.* The following clauses may be inserted in fixed price service contracts in accordance with Departmental procedures when it is appropriate to do so.

7-1904.1 *Alterations in Contract.* The clause in 7-105.1(a) may be inserted.

ASHLAND SOLUTION

Givens:

- Air Force Firm Fixed Price contract
- VE Incentive clause
- 100 units affected

1. Based on the calculations in #2 below, since ICS exceeds GC, then we can accept the VECP unconditionally (i.e., without further consideration of concurrent or future savings).

2.

VECP savings (all 100 units)			$200,000
Minus:	Contractor cost to develop	$14,000	
	Contractor cost to implement	+26,000	< 40,000>
Net VECP, Net cost reduction			$ 160,000

Unit cost reduction instant = $\frac{\$\,160{,}000}{100}$ per para (e) (1) (i) (A)

UCR instant = $ 1,600

Instant contract savings = UCR instant X Number of units

ICS = $ 1,600 X 100

ICS = $ 160,000

Calculation of contract price adjustment per para (e) (ii) (B):

Adjustment = 0.5 X (ICS + GC)

Adj. = 0.5 X ($ 80,000 + 45,000)

Adj. = 0.5 X $ 125,000

Adj. = $ 62,500

Firm Fixed Price	$1,080,000 - 62,500 =	$1,017,500		
Minus: Cost (assumed)	980.000 - 80,000 =	900.000		
Profit (assumed)	$ 100,000 (10.2%)	$ 117,500	(13.1%)	

The contractor's share, after all these calculations, is $17,500, which is reflected in the increase in their profit.

3. Net Government share: $62,500 (the adjustment in contract price) - 45,000 (Government costs) = $17,500, which is the same as the Contractor's share. With a 50/50 share arrangement, wouldn't that appear reasonable?

4. Per para (e)(4):

Ctr share of collateral savings = 0.20 X avg yr savings

Ctr share = 0.20 X $ 123,000

Ctr share = $ 24,600

5. Per para (e)(3)(i):

$$\text{Unit cost reduction future} = \frac{\text{Gross VECP savings}}{\text{Number of units}}$$

$$\text{UCR future} = \frac{\$100{,}000}{100}$$

UCR future = $1,000

6. Three years after June 88 = June 91

Compare this June 91 date with August 88. Para (e)(3)(ii) says the end of the share period is 3 years after acceptance of the first item incorporating the VECP [3 years after June 88], or until the originally scheduled delivery date of the last affected item under the instant contract [August 88], whichever *is later.* In this case, the future contract sharing period expires in June 1991. (The dates of November 1988, February 1988 (which triggers the 45-day Government response "clock"), and May 1988 (which date is used to determine which contracts are concurrent and which will be future contracts) are only smoke factors - they have no bearing on this problem).

EDMONTON ENTERPRISES, INC.

BACKGROUND:
This case is built around a September 1977 ASPR incentive, or voluntary, clause, but it is a variant that was used in Fixed Price Incentive (Firm Target) contracts (another instance where the word "incentive" is used in more than one way, further leading to confusion to we interpreters). For comparison, note the differences in para (e) between this variation and the same basic clause used in the Ashland case. In this clause, paras (e)(l)(ii)(A), (B), and (D) instruct the Contracting Officer to reprice and revise several of the major elements in this Fixed Price Incentive contract - i.e., target cost, target profit (and, by extension, target price), and ceiling price. These adjustments are not made in the current clause but vestigial memories of contractors may cause them to ask for such repricing. Resist those efforts! Also, it should be noted that the sharing rates are not dependent on the profit adjustment formula in the incentive sharing arrangement.

Two other differences have to do with future contract sharing. Para (e)(3) has provision for only a lump-sum sharing on future contracts and there is no anticipation of any royalty sharing, as in the current clause. Notice the quantity that is entered in para (e)(3)(iii) - that number is a matter of negotiation and is fixed at the time the solicitation is prepared. If the Government ends up buying more than this amount, the contractor is left holding the fuzzy end of the lollipop; if we buy fewer than this number, the Government did not plan as well as they should have. To made an *ad absurdum* argument, if the future contract was only for one (1) unit, the contractor would share in future contract savings based on a presumed buy of 4,000 units (in this particular case).

SCENARIO:
One of the Army commands has just concluded their negotiation of a Fixed Price Incentive (Firm Target) (FPIF) contract with Edmonton Enterprises, Inc. The contract calls for 2500 digital readout units with the terms of the contract as set out below:

Target Cost	$ 4,000,000
Target Profit	$ 320,000
Target Price	$ 4,320,000
Price Ceiling	$ 4,800,000
Profit Adjustment Formula	75/25

Edmonton has already submitted a VECP that will result in a VECP savings of $217,638, if it is applied to the entire quantity of end items called for by the instant contract. Edmonton's estimated cost to develop the proposal is calculated to be $17,030 and their cost to implement the accepted VECP is estimated to be $20,608. Government costs are expected to be about $38,000.

QUESTIONS:

1. Calculate the adjusted target cost of the contract as a result of the VECP.

2. What is the revised target profit?

3. Now that you have an adjusted target cost and an adjusted target profit, what is the new target price?

4. What adjustments, if any, are to be made in ceiling price?

SCENARIO II:

A synopsis published in the Commerce Business Daily describes a follow-on contract awarded for essentially the same type of digital readout unit. The follow-on contract calls for 8,000 units to be produced by the Sharp Corporation. Sharp has estimated their costs to incorporate the VECP at about $13,000.

QUESTIONS II:

5. Do you think it is reasonable for Sharp to have implementation costs over and above the costs that Edmonton had? How can these additional costs be explained, or is Sharp trying to get a bit more of Uncle's money?

6. What is the unit cost reduction on these future contract savings?

7. What is Edmonton's share of future contract savings?

8. How is Edmonton's share to be paid to them?

9. What adjustment is to be made to the other contract elements - e.g., target cost, target price, and ceiling price?

Applicable ASPR Cite
ASPR Part 17

Part 17 - Value Engineering

1-701 General.

1-701.1 ***Concept***. Value Engineering (VE) is the formal method set forth in an appropriate contract clause by which, during performance of a contract, the contractor may suggest methods for performing the contract more economically and share in any resulting savings or may be required to establish an organization aimed at identifying and submitting to the Government methods for performing the contract more economically. Value Engineering is concerned with the elimination or modification of anything that contributes to the cost of a contract item or task but is not necessary for needed performance, quality, maintainability, reliability, safety or interchangability, i.e., without impairing essential functions or characteristics. Value Engineering is synonymous with Value Analysis and Value Management insofar as it signifies a cost reduction method in Government contracts. The entire Value Engineering concept is aimed at finding areas of cost reduction in the contract. Specifically, VE constitutes a systematic and creative effort, not required by any other provision of the contract, directed toward analyzing each contract item or task to ensure that its essential function is provided at the lowest over-all cost. Over-all cost may include, but need not be limited to, the costs of acquiring, operating, and logistically supporting an item or system.

1-1701.2 ***Policy.*** It is the policy to provide contractors with a substantive financial incentive to undertake VE on the premise that both Government and the contractor will benefit. Accordingly, the contractor should be assured (i) that the Government will provide objective and expeditious processing of proposals submitted and (ii) that if a proposal is accepted he will receive a fair share of the savings. It is also the Government's policy to encourage subcontractor participation through extension by prime contractors of VE incentives to appropriate subcontractors. VE incentive payments do not constitute profit or fee subject to the limitations imposed by 10 U.S.C. 2306(d) (see 3-405.6(c)(2)).

1-1702 ***Types and Uses of VE Clauses.*** To achieve tangible results through the uses of VE programs, two types of clauses are used. The first type is the Value Engineering Incentive clause (VEIC) which sets forth (i) the methods by which the contractor may submit a Value Engineering Change Proposal (VECP), (ii) how the Government is to process the VECP, and (iii) how any resulting cost reduction is to be shared between the Government and the contractor. Submission of VECPs under the clause is left entirely to the contractor. The second type of clause is the Value Engineering Program Requirement clause. This clause requires the contractor to establish a Value Engineering Program and may provide for incentive sharing. The Value Engineering Program requirement appears as a separate funded line item in the contract and the contractor is reimbursed for it. The contractor is required to submit to the contracting officer any VECP resulting from the required program.

1-1702.1 ***VE Incentive Clause for Supplies and Services.***

(a) Except as provided in (b) and (c) below, one of the VE clauses set forth in 7-104.44, 7-204.32, or 7-1903.51 (depending upon the type of contract) shall be included in every supply or service contract of $100,000 or more and may be included in contracts under $100,000 if the contracting officer sees a potential for significant savings.

(b) The clause shall not be included in the following contracts unless authorized by the Chief of the Purchasing Office:

(I) contracts for research, exploratory development, or advanced development;

(ii) contracts for engineering services from "not-for-profit" organizations;

(iii) contracts for architect-engineer services;

(iv) contracts containing a VE Program Requirement clause except as provided by 1-1702.3(b) below;

(v) contracts providing for product or component improvement unless VE Incentive clause application is restricted to areas not covered by provisions for product or component improvement.

(vi) contracts for commercial items (see 3-807.7(b) being procured without invoking special military requirements and specifications (such as packaging specifications); and

(vii) contracts for personal services.

(c) This clause may be excluded from contracts of $100,000 or more when the Head of the Procuring Activity (HPA) determines that there is minimal potential for cost reduction through VE.

1-1702.2 ***VE Incentive Clause for Construction Contracts****.* The clause set forth in 7-602.50 shall be included in all fixed-price construction contracts of $100,000 or more. Cost-reimbursement construction contracts may include the Value Engineering Incentive clause. See 7-606.24.

1-1702.3 ***Program Requirement Clause.***

(a) The objective of the clause in 7-104.44(b) is to reduce development, production, or use costs by requiring the contractor to establish a VE program in accordance with MIL-V-38352 or as otherwise specified in the contract. The clause shall be used when a sustained VE effort at a specified level is desired. The VE program requirement shall be shown as a separately priced line item in the contact and may apply to all or to select phases of contract performance. This clause is designed primarily for contracts covering conceptual', validation and full-scale development phases of a program. It may also be used in production or service contracts.

(b) If this clause is restricted to well-defined areas of performance under the contract, a VE Incentive clause consistent with 1-1702.1 shall be included for the remaining requirements of the contract. If a Value Engineering Program Requirement clause is included in an architect-engineer contract, no VE sharing provisions will be included.

1-1703 Types of Savings to be Shared. The two types of savings to be shared between the Government and the contractor as the result of accepted value engineering change proposals are acquisition savings and collateral savings.

1-1703.1 ***Acquisition Savings*** are those which accrue from the application of value engineering change proposals to contracts for supplies or services. Acquisition savings include instant, concurrent, and future contract savings (see paragraph (e) "Sharing " of the clause in 7-104.44(a)(1)).

(a) Instant contract savings are those measurable net cost reductions on the contract under which the value engineering change proposal was submitted by the contractor and accepted by the Government. In the case of requirements or other indefinite delivery type contracts, basic ordering agreements, multi-year contracts, fixed-price contracts providing for prospective price redetermination, or contracts in which supplemental agreements or other modifications increase the quantity of items or add items to the contract, see paragraph (j) of the clause in 7-104.44(a)(1) for the appropriate definition of "*instant contract*".

(b) Concurrent contract savings are those measurable net reductions in the price of a concurrent contract. For purposes of Value Engineering, a concurrent contract is a contract which has been let by the same procuring activity for essentially the same item but which is other than the contract under which the VECP was accepted by the Government.

(c) Future contract savings are either (i) those measurable net reductions in the price of a future contract (other than the contract under which the value engineering change proposal was accepted) let by the same procuring activity for essentially the same item or (ii) a lump sum payment paid to the contractor at the time the value engineering change proposal is accepted and based upon estimated future applications of the accepted VECP in future contracts let by the same procuring activity for essentially the same item. Such savings are generally computed based upon the unit cost reduction under the instant contract without deducting any cost of development or implementation.

(d) On instant and future contracts, the contractor's the contractor's profit/fee shall be excluded when calculating the net savings.

1-1703.2 ***Collateral Savings*** are those measurable net reductions in the cognizant Military Department's overall, documentable projected costs of operation, maintenance, logistic support, or Government-furnished property, when such savings result from the VECP submitted by the contractor, whether or not there is any change in the acquisition cost (see paragraph (e)(4) of the clause in 7-104.44(a)(1)). This paragraph (e)(4) may be excluded from a contract or class of contracts when the HPA determines that the cost of computing and tracking collateral savings will exceed benefits to be derived.

1-1704 Sharing Arrangements.

1-1704.1 ***Sharing Rates.***

(a) ***Acquisition savings rates***. Depending upon the type of contract (i.e., fixed-price, cost-reimbursement, etc.), the clauses to be used in supply and service contracts (excluding construction) use fixed sharing rates for all acquisition savings; i.e., for instant concurrent, and future savings for supply and service contracts. These sharing rates also differ depending upon the type of VE clause under which the accepted VECP was developed. That is, one set of rates applies if the change was developed under a VEIC while the other set applies if the change was developed under a VEPRC. These sharing rates do not apply to the sharing of acquisition savings under construction contracts. The sharing rates area as follows:

TYPE OF CONTRACT	VALUE ENGINEERING INCENTIVE CLAUSE (Government/Contractor)	VALUE ENGINEERING PROGRAM REQUIREMENT CLAUSE (Government/Contractor)
Fixed-Price (Other than Incentive)	50/50	75/25
Fixed-Price-Incentive (FPI) or Cost-Plus-Incentive-Fee (CPIF)	65/35	80/20
Cost-Plus-Award-Fee (CPAF)	75/25	85/15
Cost Reimbursement (other than CPIF and CPAF)	75/25	85/15

(b) ***Collateral savings rates***. The contractor's share of collateral savings is 20 percent of the estimated savings to be realized during an average or typical year of use, as determined by the Purchasing Office except that such share shall not exceed the price of the contract on which the VECP is submitted or $100,000, whichever is greater.

(c) ***Optional clause***. The VE clauses in 7-104.44 and 7-204.32(b) (as applicable to supply contracts), (specifically the sharing provisions of paragraph (e) thereof), may be modified when used in incentive contracts to provide for the sharing of VE instant contract savings in the same ratio as the contract incentive share ratio, with no adjustment to targets or ceilings when a VECP is approved. This modification permits instant VE savings to be rewarded under the overall contract cost incentive. Appropriate substitute clause language is in 7-104.44(a)(6) and 7-204.32(d). Concurrent and future contract rates shall be the same as those specified in (a) above, unless modified in accordance with 1-1704.5.

1-1704.2 ***Acquisition Sharing Base***. The sharing base for acquisition savings is defined to be the affected end items on contracts of the purchasing office or its successor approving the VECP. This base may be expanded to include contracts of other purchasing offices. Such expansion of the base shall be specified in the contract. For future acquisition savings where the contractor receives a lump sum, the sharing base is an estimated number of items.

1-1704.3 ***Sharing Period***.

(a) The contractor shall share in the savings on all affected end items scheduled for delivery not later than 3 years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. The contractor shall be responsible for maintaining adequate records to identify the first unit delivered which incorporates the applicable VECP. These records must be maintained for a period of three years after final payment on the contract under which the VECP was accepted. For the purpose of establishing the starting date of the sharing period, the contractor shall identify the first unit incorporating the VECP on the applicable DD-250. Material Inspection and Receiving Report.

(b) When the contract is for items which require an extended period of time for production (e.g., ship construction), it may be desirable to provide for future sharing on times accepted under all contracts for essentially the same item awarded within the sharing, even if the scheduled delivery date is outside the sharing period.

1-1704.3 ***Methods of Sharing for Future Acquisitions***.

(a)***Methods***. There are two methods of sharing future acquisition savings, i.e., the future payment method and the lump sum method. With respect to the future payment method, the clause in 7-104.44(a)(1) provides for contractor sharing in savings by the purchasing office, of its successor, on future purchases of essentially the same end item utilizing the VECP. Payments are not made until such future contracts are actually awarded. The lump sum method, which is optional, provides for a single payment at the time of VECP approval by a contract modification, based upon estimated application of the VECP to other projected procurements by the purchasing office or its successor (i.e., five-year plan, or other suitable projection). To use the lump sum method, substitute the paragraph entitled "(3) Future contracts (lump sum)" in 7-104.44(a)(4) for paragraph (e)(3) of the clause in 7-104.44(a)(1). In deciding whether to use the lump sum method, the contracting officer shall consider:

(i) the accuracy with which the number of items to be procured during the sharing period can be estimated and the probability of actual production of the projected procurements;

(ii) the availability of funds for a lump sum payment;

(iii) whether disclosure of estimated future requirements would compromise national security; and

(iv) the administrative expense of using the future payment method.

(b) ***Calculations***. The contractor's share of future acquisition savings is based upon the sharing percentage (specified in the clause), the unit cost reduction, and the number of units involved. The calculations are in the clauses in 7-104.44(a). However, the contracting officer should carefully select the definition of the future contracts unit cost reduction to be used. Normally this is the unit cost reduction in the instant contract without considering any cost of contractor development and implementation (see paragraph (e)(3)(i) of the clauses in 7-104.44(a)(1),(2),(3) or (4)). However, if significant future contract unit cost changes (e.g., item still in design or early production, or significant changes in the rate of production) are expected, it may be desirable to reflect this in the clause by substituting the definition in 7-104.44(a)(5).

1-1704.5 ***Relationship to Design to Cost and Other Incentives***. It is DoD policy to offer the fullest possible rang e of motivation to contractors while precluding duplication of incentives. Such incentives include those relating to performance and design to cost (production unit cost, operating and support (O&S) costs, and reliability and maintainability (R&M)). The relationship of VE to these incentives is contained in subparagraph (k) of the clause in 7-104.44(a)(1).

1-1705 Submission and Processing.

(a) Instructions for submission and processing VECPs are provided in the clauses in 7-104.44 and 7-602.50 (see also MIL-STD and 481).

(b) PCOs and ACOs shall expedite evaluation and disposition of the VECP. If the evaluation period is likely to exceed 45 calendar days, the PCO shall promptly notify the contractor of the estimated decision date and provide the reasons for the additional time required. If the VECP is not accepted, written, notification supporting the rejection will be provided the submitter. When the contract is administered by other than the purchasing office, a copy of all correspondence is administered by other than the purchasing office, a copy of all correspondence regarding the VECP will be forwarded to the ACO.

1-1706 Future Payment Funding and Notice for Future Acquisition Contracts. The future payments will be made pursuant to the contract under which the VECP was accepted; however, they shall be funded from the appropriation supporting any succeed contract which utilized the VECP. In order to provide guidance on the proper citation of appropriations, insert the following notice in each contract for additional purchase of items on which future payments will be made. The notice should be inserted directly following the citation of appropriation and accounting date or, if space does not permit such insertion, the notice should be referred to there.

> "Notice of Value Engineering Payments. Award of this contract obligates the Government to make payments to the contractor under Contract No. * in accordance with the Value Engineering provisions of that contract. These payments are to be made from appropriations currently available for the procurement of items under this contract. To the extent that the Government does not, in fact, receive delivery of and accept all items on which payment is made, the Government from the contractor to whom it was paid."

* Insert the number of the contract under which the pertinent VE change proposal was accepted.

1-1707 Contracting Officer Decision Check List. Application of the clauses in 7-104.44(a) to a specific contract requires at least two decisions by the contracting officer, i.e., whether a Value Engineering clause should be used, and if so, which clause (see 1-1702). Additional decisions may be made to vary the clause to fit the individual contract at hand.

(a) *Additional Decisions to Modify Coverage:*

(1) If this is an incentive type contract, should the modified instant sharing be used? See 1-1704.1(c).

(2) Should the sharing base be expanded? See 1-1704.2.

(3) Should the sharing period be modified? See 1-1704.3(b).

(4) Should the lump sum method of payment be used for future acquisition sharing? See 1-1704.4(a).

(5) Should the clause for future acquisition sharing be modified to reflect major differences in instant contract unit cost reduction and future contract unit cost reduction? See 1-1704.4(b).

(6) (*Development Contracts Only)* Should the future acquisition sharing be modified to accommodate design to cost requirements or incentives? See 1-1704.5.

(7) Should collateral savings be omitted? See 1-1703.2.

(b) In addition, should the contract be requested to submit notification of a potential VECP prior to risking significant expenditures? (Note this can be invoked at any time during the contract.) See paragraph (j)(6) of the clause in 7-104.44(a)(1).

(c) *Incorporation by Reference.* The VE clauses in Section VII, are constructed so that they can be incorporated by reference, except for the modification which may be made pursuant to (b)(2),(3) or (6) above

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(c) The requirement for inclusion of the above clauses in contracts with foreign governments or agencies thereof may be waived in exceptional cases by the Head of a Procuring Activity, stating in writing his reasons for such determination.

7-104.43 ***Reserved.***

7-104.44 ***Value Engineering*** **(VE)**

(a) Value Engineering Incentive Clause.

(1) In accordance with 1-1702.1 and 1-1707, insert the following clause in firm fixed-price contracts, fixed-price contracts with economic price adjustment or fixed-price contracts providing for prospective price redetermination:

VALUE ENGINEERING INCENTIVE (1977 SEP)

(a)***Application***. This clause applies to a contractor developed and documented Value Engineering Change Proposal (VECP) which:

(i) requires a change to this contract to implement the VECP, and

(ii) reduces the overall costs to the cognizant Military Department without impairing essential functions or characteristics, provided that it is not based:

(A) solely on a change in deliverable end item quantities: or

(B) a change in R&D end item or test quantities due solely to results of previous testing under this contract, or

(C) solely on a change to the contract type.

(b) ***Documentation***. As a minimum, the following information shall be submitted by the Contractor with each VECP:

(i) a description of the difference between the existing contract requirement and the proposed change, and the comparative advantages and disadvantages of each, justification when a function or characteristic of an item is being altered, and the effect of the change on the performance of the end item;

(ii) an analysis and itemization of the requirements of the contract which must be changed if the VECP is accepted and a recommendation as to how to make each such change (e.g., a suggested specification revision);

(iii) a separate detailed cost estimate for both the existing contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the VECP, taking into account the costs of development and implementation by the Contractor (including any amount attribute to subcontracts in accordance with paragraph (h) below);

(iv) a prediction of any effects the proposed change would have on collateral costs to the Military Department such as Government-furnished property costs, costs of related items, and costs of maintenance and operation;

(v) a statement of the time by which a contract modification accepting the VECP must be issued to as to obtain the maximum cost reduction, noting any effect on the contract completion time or delivery schedule; and

(vi) identification of any previous submission of the VECP, including the dates submitted, the agencies involved, the numbers of the Government contracts involved, and the previous actions by the Government, if known.

(c) ***Submission***. VECPs shall be submitted to the Procuring Contracting Officer (PCO). When the contract is administered by other than the purchasing office, a copy of the VECP shall be submitted simultaneously to the Administrative Contracting Officer (ACO). VECPs shall be processed expeditiously, however, the Government shall not be liable for any delay in acting upon any VECP submitted pursuant to this clause. If the evaluation period is likely to exceed forty-five (45) calendar days, the PCO shall promptly notify the Contractor of the estimated decision date and provide the reasons for the additional time required. The Contractor has the right to withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP.

(d) ***Acceptance***. The Contracting Officer may accept, in whole or in part, by contract modification either before or within a reasonable time after performance has been completed under this contract, any VECP submitted pursuant to this clause. Until a contract modification applies a VECP to this contract, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. Contract modifications made pursuant to this clause will so state the d of the Contracting Officer as to the acceptance of any VECP under this contract (including the decision as to which clause is applicable to the proposal of this contract contains both a "Value Engineering Incentive" and a "Value Engineering Program Requirement" clause shall be final and shall not be subject to the "Disputes" clause of this contract.

(a) ***Sharing***. If a VECP submitted by the Contractor pursuant to this clause is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculation and Actions:

(A) Calculate GS and ICS.

(B) If ICS exceeds GS, calculate fifty percent (50%) (Government share) of the sum of ICS and GS, i.e., (.5 (ICS plus GS)), unless this is a VE Program Requirement Change (VEPRC), in which case calculate (.75 ICS plus .25 GC). In either case, subtract the result from the contract price.

(C) If GS exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, reduce the instant contract price by the amount of ICS and offset the amount by which GS exceeds ICS against concurrent or future savings.

(D) If the Contractor's cost of developing and implementing the VECP would result in an increase in the instant contract price, but the VECP is still desirable due to concurrent or future savings, equitably adjust the instant contract price in accordance with the "Changes" clause. In addition, offset the increase in the instant contract price and any GS against concurrent or future contract savings.

(E) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items, the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reductions in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract form the total amount in (A) any government costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) and (D) above, and any increase in the instant contract price, i.e., if ICS was negative in (e)(1)(ii)(D). If the resulting number is positive, multiply it by fifty percent (50%) (25% if this is a VEPRC). Add the amount to the instant contract price.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three (3) years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:

"This is the initial unit delivered which incorporates VECP No.___Contract Modification No.___ , dated___."

(iii) Calculations. At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (D), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by fifty percent (50%) (25% if this is a VEPRC) and add the result to the instant contract price.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated) and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. However, such increase representing the Contractor's share of collateral savings shall, in no event exceed the price of this contract or $100,000, whichever is greater. The determination of the amount of collators' savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract, in all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(f) *Payment.* The Contractor's concurrent and future contract shares should be pain upon modification of concurrent contracts or future contract award, or within six (6) months thereafter. However, any such payments are subject to the condition that to the extent the Government does not receive delivery of and accept all items on which the share is paid, the contractor shall reimburse the Government the proportionate share of the payments. If this clause is modified to provide for lump sum payments, such payments shall be made upon modification of the instant contract.

(g) *Operation and Maintenance Contracts.* If this is a contract for overhaul or maintenance (including repair, alteration, modification or modernization), the Contractor will be paid a share of "Future contract savings realized by the Government only on overhaul and maintenance of the designated items accomplished by purchase, under contract, by the designated purchasing office. Only collateral savings will be paid on application of accepted VECPs to overhaul and maintenance of items within Government resources.

(h) *Subcontracts*. The Contractor shall include appropriate VE arrangements in any subcontract of $100,000 or greater, and may include such arrangements in contracts of lesser value. To compute any adjustment in the contract price under paragraph (e)(1) above, the Contractor's cost of development and implementation of a VECP which is accepted under this contract shall include any development and implementation costs of a subcontractor and any VE incentive payments to a subcontractor, which clearly pertain to such VECP. However, no such payment or accrual to a subcontractor will be permitted, either as a part of the contractor's development or implementation costs or otherwise, to reduce the Government's share on collateral savings or additional purchases as contemplated by paragraphs (e)(2), (1) or (4) of this clause.

(i) *Data.* The Contractor may restrict the Government's right to use any sheet of a VECP or of the supporting data, submitted pursuant to this clause, in accordance with the terms of following legend if it is marked on such sheet:

> "This data furnished pursuant to the Value Engineering clause of contract.........shall not be disclosed outside the Government, or duplicated, used or disclosed, in whole or in part, for any purpose other than to evaluate a VECP submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the Contractor or from another source, without limitations."

In the even of acceptance of a VECP, the Contractor hereby grants to the Government unlimited rights, as defined in the clause of ASPR 7-104.9(a), in the VECP and supporting data, except that, with respect to data which qualifies as and is submitted as limited rights technical data in accordance with the clause of ASPR 7-104.9(a), the Government shall have the rights specified in the contract modification referred to in paragraph (d) hereof and the data shall be appropriately marked.

(j) *Miscellaneous Provisions.*

(1) For purposes of sharing under paragraph (e)(1) above, the term "instant contract" shall not include nay modifications of the instant contract, executed after acceptance of the particular VECP, by which the Government increases the quantity of any item or adds any item, nor shall it include any extension of the instant contract through exercise of an option provided under this contract after acceptance of the VECP. Such modifications and extensions shall be considered "future contracts" within the provisions of paragraph (e)(3) of this clause.

(2) If this is an indefinite delivery type contract, the term "instant contract" for purposes of sharing under paragraph (e)(1) above shall include only those orders actually placed by the Government up to the time the particular VECP is accepted. All orders placed subsequent to the acceptance of this particular VECP shall be considered "future contracts" within the provisions of paragraph (e)(3) of this clause.

(3) If this clause is included in a basic ordering agreement, the term "instant contract" for purposes of sharing under paragraph (e)(1) above, shall be the order under which the particular VECP is approved. Other orders under the same agreement shall be considered either "concurrent contracts" (if awarded prior to acceptance of the VECP) or 'future contracts' (if awarded after acceptance of the VECP), within the provisions of paragraph (e)(2) or (e)(3) of this clause, respectively.

(4) If this clause is included in a multi-year contract, the term "instant contract" for the purpose of sharing under paragraph (e)(1) above, shall be the funded contract at the time the VECP is approved, and items purchased under subsequent funding under this contract shall be treated under this future contract VE sharing provisions in paragraph (e)(3) of this clause. The sharing period shall be the entire life of the multi-year contract, or three (3) years after delivery of the first item incorporating the VECP, whichever is longer.

(5) If this clause is included in a fixed-price contract providing for prospective price redetermination, the term "instant contract" for purposes of sharing under paragraph (e)(1) above shall be that period for which firm prices have been established. The remaining periods under this contract shall be treated under the future contract VE sharing provisions in paragraph (e)(3) of this clause.

(6) The Contracting Officer may require the Contractor to provide written notification prior to undertaking significant expenditures for VECP effort.

(k) *Relation to other incentives.* Those benefits of an approved VECP which are not rewards under performance, design to cost (production unit cost, operating and support (O&S) costs, reliability and maintainability (R&M)) no similar incentives of the contract shall be rewarded under subparagraph (e) of this clause. The targets of such incentives affected by the VECP shall not be adjusted because of the acceptance of the VECP. If the contract does not provide such incentives to better specified targets, the VE sharing shall apply only to the amount of achievement better than target.

(End of Clause)

(a)(2) In fixed-price incentive (firm target) contracts, substitute the following "Sharing" provision for paragraph (e) of the clause in (1) above:

(e) Sharing. If a VECP submitted by the Contractor pursuant to this clause and affecting any of the issues described in paragraph (a) of the "Incentive Price Revision (Firm Target)" clause of this contract is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development are implementation costs include any subcontractor development and implementation costs and any subcontractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD which directly result from development and implementation of the VECP, such a test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculations and Actions.

(A) If there is a reduction in costs, reduce the total target cost of items affected by the VECP by ICS. If there is an increase in cost, see (E) below.

(B) If ICS exceeds GC, add 35% (20% If that is a VE Program Requirement Change (VEPRC)) of the excess to total target profit relating to such items.

(C) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust total target profit relating to such items, and offset the amount by which GC exceeds ICS against concurrent or future contract savings.

(D) Subtract 65% (80% if this is a VEPRC) of ICS from the maximum dollar limit on the total final price of such items.

(E) If the Contractor cost of developing and implementing the VECP would result in an increase in the instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the total target cost, total target profit and maximum dollar limit on the total final price of the items affected by the VECP in accordance with the "Changes" clause. Offset the increase and any GC against concurrent or future savings.

(F) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any government costs not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) or (E) above, and any increase in the instant contract price, i.e., if ICS was negative in (e)(1)(ii)(E). If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than 3 years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement.
"This is the initial unit delivered which incorporates VECP No._______, Contract Modification No. _______, dated ."

(iii) Calculations. At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (E) or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 35% (20% of VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable so incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated), and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. However, such increase representing the Contractor's share of collateral savings, shall, in no event, exceed the price of this contract or $100,000, whichever is greater. The determinance of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department. (1976 JUL)

(End of clause paragraph)

(a)(3) In fixed-price incentive (successive target) contracts, substitute the following "Sharing" provision for paragraph (e) of the clause in (1) above.

(e)Sharing. If a VECP submitted by the Contractor pursuant to this clause and affecting any of the items described in paragraph (a) of the "Incentive Price Revision (Successive Target)" clause of this contract is accepted, the Contractor shall share in savings realized by the Government in accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such a test and evaluation of the VECP, and any increased costs in DoD operations, maintenance and logistic support.

(ii) Calculations and Actions.

(A) If the VECP is accepted and applied to this contract before the establish of a firm fixed price in accordance with paragraph (c) of the "Incentive Price Revision (Successive Targets)" clause of this contract:

(i) If there is a reduction in cost, reduce the then total target cost of items affected by the VECP by ICS. If there is an increase in cost see (V) below.

(ii) If ICS exceeds GS, add 35% (20% if this is a VE Program Requirements Change (VEPRC)) of the excess to the then target profit relating to such items (if a firm profit adjustment formula is established in accordance with paragraph (a) of the "Incentive Price Revision (Successive Targets)" clause of this contract, the above percentage may be modified for application to VE cost reduction proposals, submitted pursuant to this clause, which are accepted under this contract after the establishment of said formula).

(iii) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust the then target profit, and offset the amount GC exceeds ICS against concurrent of future contract savings.

(IV) Subtract 65% (30% if this is a VEPRC) of ICS from the maximum dollar limit on the total final price of such items.

(V) If the Contractor cost of developing and implementing the VECP would result in an increase in the then instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the then total target cost, the then target profit, and the then maximum dollar limit on the total final price of the items affected by the VECP in accordance with the "Changes" clause. Offset the increase and any GC against concurrent or future savings. (If a firm profit adjustment formula is established in accordance with paragraph (a) of the "Incentive Price Revision (Successive Targets)" clause of this contract, and the VECP significantly increases the target cost, the above percentage may be modified for application to the VECPs, submitted pursuant to this clause, which are accepted under this contract after the establishment of said formula).

(B) If the VECP is accepted after the establishment of a firm fixed price in accordance with paragraph (c) of the "Incentive Price Revelation (Successive Targets)" clause of this contract:

(i) Calculate GC and ICS.

(ii) If ICS exceeds GS, calculate 50% (Government share) of the sum of ICS and GC, i.e., (.5 (ICS plus .25 GC)), unless that is a VE Program Requirement Change (VEPRC), in which case calculate (.75 ICS plus .25 GC). In either case, subtract the result from the contract price.

(iii) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, reduce the instant contract price by the amount of ICS and offset the amount by which GC exceeds ICS against concurrent or future savings.

(IV) If the Contractor's cost of developing and implementing the VECP would result in an increase in the instant contract price, but the VECP is still desirable due to concurrent or future savings, equitably adjust the instant contract price in accordance with the "Changes" clause. In addition, offset the increase in the instant contract price and any GC against concurrent or future contract savings.

(C) See (e)(3)(ii) for those actions to be taken when a future contract is expected.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items, the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset of GC was greater than ICS in (e)(1)(ii)(A)(iii) or (V) or (e)(1)(ii)(B)(IV). If the resulting number is positive, and the VECP was accepted under paragraph (e)(1)(ii)(A) multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. If the resulting number is positive, but the VECP was accepted under paragraph (e)(1)(ii)(B), multiply it by 50% (25% of this is a VEPRC), and add this amount to the instant contract price.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:
"This is the initial unit delivered which incorporates VECP No._____, Contract Modification No.________ , dated ."

(iii) Calculations, at the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(A)(iii) or (V), or (e)(1)(ii)(B)(iii) or (IV), or in (e)(2)(ii)(B), or in contracts awarded since acceptance of the VECP. If the resulting number is positive, and the VECP was accepted under paragraph (e)(1)(ii)(A), multiply it by 35% (20% if this was a VEPRC). In either case, add the amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) Collateral Savings. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support of Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the changes or reduction of Government-furnished property under the instant contract. Add this amount to the instant contracts a separate line item independent of the incentive sharing arrangement and without adjustment to separate line item independent of the incentive parameters. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of this contract of $100,000.

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whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of this contract in all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department. (1976 JUL)

(End of clause paragraph)

(a)(4) In accordance with 1-1704.4, substitute the following provisions for paragraph (e)(3) "Future Contracts" of the clause in (1) above for use of the Lump Sum Method of payment for future contract sharing:

(3) Future Contracts (Lump Sum).

(i) Definition. The term unit cost reduction for lump sum sharing purposes shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If a VECP accepted under this contract is expected to be used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on the purchases which the purchasing office estimates will be delivered not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later.

(iii) Lump Sum Base. The number of items the Government estimates will be delivered during the period specified in (ii) above is.......... (insert the number of units).

(iv) Calculations and Actions.

(A) Multiply the unit cost reduction in (i) by the number of units specified in (iii) above.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset (if GC was greater than ICS) and any increase in the instant contract price, i.e., if ICS was negative. If the resulting number is positive, multiply it by the Contractor percentage share. Add this amount to the instant contract.

(End of clause paragraph)

(a)(5) With respect to the future contract sharing provisions paragraph (e)(3) of the clause in (1) above, or as those provisions may be modified by the lump sum provisions in (4) above, when, in the judgment of the Contracting Officer, the unit costs under the instant contract will not be fairly representative of the unit costs to be expected under future contracts due for example to learning curve application (as will generally be the case with developmental or design contracts and may be the case with early production contracts), the definition in paragraph (e)(3)(i) shall be changed as follows:

(i) Definition. The term "unit cost reduction" for future contract purposes shall be the average amount of the decrease in unit cost of performance (without deducting any Contractor costs of development or implementation) which the Contracting Officer estimates will result from utilization of the VECP on future purchases of the item. The item for design contracts will be the item to be produced as a result of the design process.

(End of clause paragraph)

(a)(6) When the sharing provisions applicable to incentive contracts are to be modified in accordance with 1-1704.1(c), clause paragraph (e) in (a)(2) or (a)(3) above, whichever is applicable, shall be further modified as follows:

(a)(6)(i) Modification to clause paragraph (c) of (a)(2):

(a)(6)(i)(A) Change clause paragraph (e)(1)(ii) to provide substantially as follows:

(ii) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason of the acceptance of such proposal. The new requirement will be incorporated into the contract by a contract modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes Clause* rather than under this clause, but the resulting contract modifications will state that it is made pursuant to this clause (1976 FEB)

(End of clause paragraph)

(a)(6)(i)(B) Change clause paragraph (e)(2)(ii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs not yet offset and any increase in the instant contract price. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii) Modifications to clause paragraph (e) of (a)(3) above:

(a)(6)(ii)(A) Change clause paragraph (e)(1)(ii)(A) to provide substantially as follows:

(A) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason of the acceptance of such proposal. The new requirement will be incorporated into the contract by a modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes* clause rather than under this clause, but the resulting contract modification will state that it is made pursuant to this clause. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii)(B) Change clause paragraph (c)(2)(ii)(B) to provide substantially as follows:

(A) Subtract from the total amount in (A) any government costs not yet offset and any increase in the then instant contract target cost. If the resulting number is positive, and the VECP was accepted before establishment of a firm fixed price under the instant contract, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. If the resulting number is positive, but the VECP was accepted after establishment of the firm fixed price under the instant contract, multiply it by 50% (25% of this is a VEPRC), and add this amount to the instant contract price. (1976 FEB)

(End of clause paragraph)

(a)(6)(ii)(C) Substitute the definition in (a)(5) above for the definition in clause paragraph (e)(3)(i).

(a)(6)(ii)(D) Change clause paragraph (e)(3)(iii)(B) to provide substantially as follows:

(B) Subtract from the total amount tin (A) any government costs or instant contract increases not yet offset. If the resulting number is positive, and the VECP was accepted before establishment of the firm fixed price under the instant contract, multiply it by 35% (20% if this was a VEPRC). If the resulting number is positive, but the VECP was accepted after establishment of the fir fixed price under the instant contract, multiply it by 50% (25% if this was a VEPRC). In either case, add the amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB).

(End of clause paragraph)

7-104.44(b)

(b) Value Engineering Program Requirement. In accordance with 1-1702.3 insert the following revised contract clause title and paragraph (a) of the clause in (a)(1) above:

VALUE ENGINEERING PROGRAM REQUIREMENT (1974 APR)

(a) The Contractor shall engage in a value engineering program in accordance with MIL-V-38352 or other requirements as specified by the Contracting Officer, shall submit progress reports thereon as specified in the contract and shall submit to the Contracting Officer any value engineering change proposals (VECPs) resulting from the required program. This clause applies to all VECPs developed by the Contractor unless the Contracting Officer determines the proposal to be rewardable under the "Value Engineering Incentive" clause (if any) of this contract, which:

(i) require a change to this contract to implement the VECP, and

(ii) reduced the overall costs to the cognizant Military Department, without impairing essential functions or characteristics, *provided* that they are not based.

(A) solely on a change in deliverable end item quantities; or

(B) a change in R&D end item or test quantities due solely to results of previous testing under the contract; or

(C) solely on a change to the contract type

(End of clause paragraph)

CONTRACT CLAUSES AND SOLICITATION PROVISION

Paragraphs (b) through (j) of the clause set forth in (a)(1) above shall be included as part of the VE Program Requirements clause except that, the guidelines in (a)(2) through (a)(5) above shall also be applicable.

TAXES (1960 JUL)

Any tax or duty from which the United States Government is exempt by agreement with the Government of , or from which the Contractor or any subcontractor hereunder is exempt under the laws of , shall not constitute an allowable cost under the contract.

(End of clause)

(b) *Foreign Government as Contractor*. In accordance with 11-403.2(d), insert the following clause.

TAXES (1960 JUL)

Any tax or duty from which the United States Government is exempt by agreement with the Government of...........or from which any subcontractor hereunder is exempt under the laws of.........., shall not constitute an allowable cost under this contract.

(End of clause)

7-204.25 *Advance Payments.* When advance payments are to be made in accordance with Appendix E, Part 4, insert the appropriate clauses in 7-104.34.

7-206.26 *Frequency Authorization.* In accordance with 7-104.61, insert the clause therein.

7-204.27 *Required Source for Jewel Bearings, and Related Items.* In accordance with 1-2207.2, insert the clause in 7-104.37.

7-204.28 *General Services Administration Supply Sources.* In accordance with 5-909, insert the following clause.

GENERAL SERVICES ADMINISTRATION SUPPLY SOURCES (1977 AUG)

The Contracting Officer may issue the Contractor an authorization to utilize General Services Administration supply sources for property to be used in the performance of the contract. All property acquired under such an authorization shall be subject to the provisions of the clause of this contract entitled *"Government Property"*, except paragraphs (a) and (b) thereof.

(End of clause)

7-204.29 *Special Termination Costs*. In accordance with 8-712, insert the clause in 7-108.3.

7-204.30 *Interest.* In accordance with E-620, insert the clause in 7-104.39.

7-204.31 *United States Products (Military Assistance Program).* In accordance with 6-703.4, insert the clause in 7-2003.51.

7-204.32 *Value Engineering.*

(a) *Use of the Incentive and Program Requirement Clauses.* In accordance with 1-1702 and 1-1707, insert the applicable clause or clauses in 7-104.44(a) and (b), as modified in (b) or (c) below.

(b) *Cost-Plus-Incentive-Fee Contracts.* Substitute the following "Sharing" provision for paragraph (e) of the applicable clause in 7-104.44(a) and (b):

(e) Sharing. If a VECP submitted by the Contractor pursuant to this clause is accepted, the Contractor shall share in the savings realized by the Government in accordance with the following provisions:

(1) Instant Contract

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific value engineering project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operations, maintenance, and logistic support.

(ii) Calculations and Actions:

(A) Reduce the target cost of items affected by the VECP by ICS. The estimated cost for "limitation of cost" or "limitation of funds" purposes (7-203.3), if different of separately stated, should also be reduced by the same amount.

(B) If ICS exceeds GC, add 35% (20% if this is a VE Program Requirement Change (VEPRC)) of the excess to minimum, target, and maximum fees relating to such items.

(C) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust minimum, target or maximum fees, but offset the amount GC exceeds ICS against concurrent or future contract savings.

(D) If the Contractor cost of developing and implementing the VECP would result in an increase in the instant contract target cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the total target cost and fee in accordance with the "Changes" clause. Offset this increase and any GC against concurrent of future savings.

(2) Concurrent Contracts.

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(C) or (D) above, and any increase in the instant contract target cost, i.e., if ICS was negative in (e)(1)(ii)(D). If the resulting number is positive, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(3) Future Contracts.

(i) Definition. The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same items by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspection and Receiving Report, which applies to the initial unit covered by the VECP with the following statement:
"This is the initial unit delivered which incorporates VECP No._____ , Contract Modification No._______, dated ."

(iii) *Calculations.* At the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(C) or (D), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 35% (20% if this is a VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters.

(4) *Collateral Savings.* If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of use of the item in which the change is incorporated) and, if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of this contract or $100,000, whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the 'Disputes' clause of this contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(End of clause paragraph)

(c) Cost-Plus-Fixed Fee and Cost-Plus-Award-Fee Contracts. Substitute the following "Sharing" provision for paragraph (e) of the applicable clause in 7-104.44(a) and/or (b):

(e) *Sharing.* If a VECP submitted by the Contractor pursuant to this clause is accepted the Contractor shall share in savings realized by the Government is accordance with the following provisions:

(1) Instant Contract.

(i) Definitions:

(A) Instant contract savings to the Contractor (ICS) is the unit cost reduction times the number of units affected in the instant contract. The proposed unit cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs and any subcontractor incentive payments (see (h) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific value engineering project and prior to acceptance by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of the VECP, and any increased costs in DoD operation, maintenance, and logistic support.

(ii) Calculations and Actions

(A) If ICS exceeds GC, add 25% (15% of this is a VE Program Requirements Change (VEPRC) of the excess to the contract fee), and reduce the estimated cost of the items affected by the VECP, for "limitation of cost" or "limitation of funds" purposes (7-203.3), by ICS.

(B) If GC exceeds ICS, but acceptance of the VECP is still desirable due to concurrent or future savings, do not adjust contract fee, but offset the amount GC exceeds ICS against concurrent or future savings.

(C) If the Contractor cost of developing and implementing the VECP would result in an increase in instant contract cost, but the VECP is still desirable due to concurrent or future savings, equitably adjust the estimated cost and fee in accordance with the "Changes" clause. Offset this increase and any GC against concurrent or future savings.

(2) *Concurrent Contracts.*

(i) If the VECP accepted under this contract is also used on concurrent contracts of the purchasing office for essentially the same items the Contractor shall be paid a share of any savings as calculated in (ii) below.

(ii) Calculations:

(A) Determine the reduction in the price of each concurrent contract(s) as a result of incorporating the VECP.

(B) Subtract from the total amount in (A) any Government Costs (GC) not yet offset (if GC was greater than ICS) in (e)(1)(ii)(B) or (C) above, and any increase in the instant contract price, i.e., if ICS was negative in (e) (1)(ii)(C). If the resulting number is positive, multiply it by 25% (15% if this is a VEPRC). Add this amount to the contract fee.

(3) *Future Contracts.*

(i) Definition: The term unit cost reduction for future contract sharing shall be the unit cost reduction under this instant contract without deducting any cost of development or implementation.

(ii) If the VECP accepted under this contract is used on future purchases of essentially the same item by the purchasing office, or its successor, the Contractor shall share in the savings on all affected end items scheduled for delivery not later than three years after acceptance of the first item incorporating the VECP, or until the originally scheduled delivery date of the last affected end item under the instant contract, whichever is later. When sharing on future contracts is expected, the Contractor shall be responsible for the following:

(A) Maintaining records adequate to support identification of the first delivered unit to which the VECP applies. These records are considered an integral part of contract documentation and shall be maintained for a period of three years after final payment on the contract under which the VECP was accepted.

(B) Annotating the DD Form 250, Material Inspections and Receiving Report, which applies to the initial unit covered by the VECP with the following statement: "this is the initial delivered which incorporates VECP No. ,Contract Modification No. , Date ."

(iii) *Calculations.* AT the time each eligible future contract is awarded:

(A) Determine the number of units scheduled to be delivered prior to expiration of the Contractor sharing period determined in (ii) above. Multiply this by the unit cost reduction as defined in (e)(3)(i).

(B) Subtract from the total amount in (A) any Government costs or instant contract increases not yet offset in (e)(1)(ii)(B) or (C), or in (e)(2)(ii)(B), or in other contracts awarded since acceptance of the VECP. If the resulting number is positive, multiply it by 25% (15% if this is a VEPRC).

(4) *Collateral Savings*. If an accepted VECP results in a measurable net reduction in the cognizant Military Department's overall documentable projected costs of maintenance, operation, logistic support or Government'-furnished property, which exceeds any increase in costs attributable to incorporation of such VECP, including acquisition costs, the contract shall be increased by twenty percent (20%) of the projected net reduction in ascertainable collateral costs (i.e., savings determined to be realized during an average year of used of the item in which the change is incorporated)

and if applicable, of the actual savings accruing from a change or reduction of Government-furnished property under the instant contract. However, such increase representing the Contractor's share of collateral savings shall, in no event, exceed the price of the contract or $100,000, whichever is greater. The determination of the amount of collateral savings, if any, will be made solely by the Government and shall not be subject to the "Disputes" clause of the contract. In all cases, degradation of performance, service life, or capability shall be a consideration in the determination of actual savings to the Military Department.

(End of clause paragraph)

(d) When the sharing provisions applicable to incentive contracts are to be modified in accordance with 1-1704.1(c), clause paragraphs (c) in (b) above shall be further modified as follows:

(i) Change clause paragraph (e)(1)(ii) to provide substantially as follows:

(ii) If the cost reduction proposal submitted pursuant to this clause involves an anticipated decrease in the cost of performance of this contract and is accepted by the Government, the parties agree that neither the target cost, target profit, nor ceiling price of the instant contract shall be adjusted by reason of the acceptance of such proposal. The new requirement will be incorporated into the contract by a contract modification which will state that it is made pursuant to this Value Engineering clause. When the cost of performance of this contract is increased as a result of the changes, the equitable adjustment increasing the contract price shall be in accordance with the *Changes* clause rather than under this clause, but the resulting contract modification will state that it is made pursuant to this clause. (1976 FEB)

(End of clause paragraph)

(ii) Change clause paragraph (e)(2)(ii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs not yet offset and any increase in the instant contract target cost. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

(iii) Substitute the definition in 7-104.44(a)(5) for the definition in clause paragraph (e)(3)(i).

(iv) Change clause paragraph (e)(3)(iii)(B) to provide substantially as follows:

(B) Subtract from the total amount in (A) any government costs or instant contract increases not yet offset. If the resulting number is positive, multiply it by 35% (20% if VEPRC). Add this amount to the instant contract as a separate line item independent of the incentive sharing arrangement and without adjustment to any of the contract incentive parameters. (1976 FEB)

(End of clause paragraph)

7-204.33 *Limitation and Liability*

(a) In accordance with 1-330, in the procurement of major items, insert the following clause.

7-602.48 *Reserved.*

7-602.49 *Affirmation Action for Disabled Veterans and Veterans of the Vietnam Ere.* Insert the clause in 7-103.27.

7-602.50 *Value Engineering (VE).* Insert the following clause in all fixed-price type construction contracts of $100,000 or more.

VALUE ENGINEERING INCENTIVE (1977 AUG)

(a) *Application.* This clause applies to a Contractor developed and documentation Value Engineering Change Proposal (VECP) which:

(I) requires a change to this contract to implementation the VECP; and

(ii) reduces the contract price without impairing essential functions or characteristics, provided that it is not based solely on a change in deliverable end item quantities.

(b) *Documentation*. As a minimum, the following information shall be submitted by the Contractor with each VECP.

(I) a description of the difference between the existing contract requirement and the proposed change and the comparative advantages and disadvantages of each justification where functions or characteristics of a work item is being altered; and the effect of the change on the performance of the end item;

(ii) an analysis and itemization of the requirements of the contract which must be changed if the VECP is accepted and a recommendation as to how to make each such change (e.g., a suggested specification revision);

(iii) a separate detailed cost estimate for both the existing contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the VECP, taking into account the costs of development and implementation by the Contractor (including any amount attributable to subcontracts in accordance with paragraph (f) below):

(iv) a prediction of any effects the proposed change would have on related costs to the Military Department such as Government furnished property costs, and costs of maintenance and operation;

(v) a statement of the time by which a change order adopting the VECP must be issued so as to obtain the maximum cost reduction during the remainder of this contract, noting any effect on the contract completion time or delivery schedule; and

(vi) identification of any previous submission of the VECP, including the dates submitted, the agencies involved, the numbers of the Government contracts involved, and the previous actions by the Government if known.

(c) *Submission.* To expedite a determination, VECPs shall be submitted to the Resident Engineer as the worksite with a copy to the Contracting Officer, Proposals shall be processed expeditiously; however, the Government shall not be liable for any delay in acting upon any proposal submitted pursuant to this clause. If the evaluation period is likely to exceed 45 calendar days, the PCO shall promptly notify the Contractor of the estimated decision date and provide the reasons for the additional time required. The Contractor has the right to withdraw, in whole or in part, any VECP not accepted by the Government within the period specified in the VECP.

(d) *Acceptance.* The Contracting Officer may accept, in whole or in part, by contract modification any VECP submitted pursuant to this clause. The Contracting Officer may accept the VECP even though an agreement on price reduction has not been reached has not been reached, by issuing the Contractor a notice to proceed with the change. Until a notice to proceed is issued or a contract modification applies a VECP to this contract, the Contractor shall remain obligated to perform in accordance with the contract. Contract modifications made pursuant to this clause will so state. The decision of the Contracting Officer as to the acceptance of any VECP under this contract shall be final and shall not be subject to the "Disputes" clause of this contract.

(e) *Sharing.* If a VECP submitted by the Contractor pursuant to this clause is accepted, the contract price shall be adjusted without regard to profit in accordance with the following provisions:

(i) Definition.

(A) Instant contract savings to the Contractor (ICS) are the estimated reduction in the Contractor's cost of performance resulting from the acceptance of the VECP. The proposed cost reduction includes estimated allowable Contractor development and implementation costs (CC). The Contractor's development and implementation costs include any subcontractor development and implementation costs (see (f) below). For purposes of this clause, Contractor development costs are those costs incurred after the Contractor has identified a specific VE project and prior to acceptance and implementation by the Government.

(B) Government Costs (GC) are those DoD costs which directly result from development and implementation of the VECP, such as test and evaluation of VECP.

(ii) *Calculations and Actions.* Multiply ICS by 45% and GC by 55%. Add these two results, e.g., (.45 ICS plus .55 GC) and subtract from the contract price.

(f) *Subcontracts.* The Contractor shall include appropriate VE arrangements in any subcontract of $50,000 or greater, and may include such arrangements in contracts of lesser value. To compute any adjustment in the contract price under paragraph (e) above, the Contractor's cost of development and implementation of a VECP which is accepted under this contract shall include any development and implementation costs of a subcontractor, which clearly pertains to such VECP, but shall exclude any VE incentive payments which the Contractor may make whatever VE incentive payment arrangements he chooses with his subcontractors, *provided* that any payments to subcontractors under such arrangements are made form the Contractor's, and not the Government's, share of the savings resulting from the VECP.

(g) *Data.* The Contractor may restrict the Government's right to use any sheet of a VECP or of the supporting data, submitted pursuant to this clause, in accordance with the terms of the following legend if it is marked on such sheet:

"This data furnished pursuant to the Value Engineering Incentive clause of contract ...., shall not be disclosed outside the Government, or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a VECP submitted under said clause. This restriction does not limit the Government's right to use information contained in this data if it is or has been obtained, or is otherwise available, from the Contractor or from another source, without limitations."

In the event of acceptance of a VECP, the Contractor hereby grants to the Government unlimited rights, as defined in the clause of ASPR 7-104.9(a), in the VECP and supporting data, except that, with respect to data which qualifies as and is submitted as limited rights technical data in accordance with the clause of ASPR 7-104.9(a), the Government shall have the rights specified in the contract modification referred to in paragraph (d) hereof and the data shall be appropriately marked.

(End of clause)

7-602.51 *Affirmative Action for Handicapped Workers.* Insert the clause in 7-103.28.

7-602.52 *Clean Air and Water.* In accordance with 1-2302.2, insert the clause in 7-103.29.

7-602.53 *Payment of Interest on Contractors' Claims.* In accordance with 1-333, insert the clause in 7-104.82.

7-602.54 *Shop Drawings.*

(a) Insert the following clause, with the appropriate additions in (b) and (c) below.

SHOP DRAWINGS (1976 OCT)

(a) The term "shop drawings" includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.

(b) If this contract requires shop drawings, the Contractor shall coordinate all such drawings and review them for accuracy, completeness, and compliance with contract requirements and shall indicate his approval thereon as evidence of such coordination and review Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be

7-1903.43 *Government Delay of Work.* The clause in 7-104.77 may be inserted.

7-1903.44 *Safety Precautions for Ammunition and Explosives.* In accordance with 7-104.29, insert the clause therein.

7-1903.45 *Accident Reporting and Investigation Involving Aircraft, Missiles, and Space Launch Vehicles.* In accordance with 7-104.81, insert the clause therein.

7-1903.46 *Management Systems Requirements*. In accordance with 16-827.1, insert the clause in 7-104.50.

7-1903.47 *Payment of Interest on Contractor's Claims.* In accordance with 1-333, insert the clause in 7-104.82.

7-1903.48 *Cost Accounting Standards.* In accordance with 3-1204, insert the clauses in 7-104.83.

7-1903.49 *Availability of Funds.* In accordance with 1-318, insert one of the clauses in 7-104.91.

7-1903.50 *Capture and Detention.* In accordance with 10-406, insert the clause in 7-104.94.

7-1903.51 *Value Engineering.*

(a) In accordance with 1-1702, insert the appropriate clauses in 7-104.44 modified, as required, to suit the particular procurement involved.

(b) Insert additional paragraph as follows:

( ) Contractor proposals which eliminate, modify or substitute new procedures for contractually required work procedures shall qualify for instant contract savings sharing. If this is a time and material or labor-hour contract, the "effect of the proposal on the Contractor's cost of performance," for purposes of the instant contract sharing paragraph (e)(1) of the clause, shall be determined by (i) multiplying the time per item saved by the elimination, modification, or substitution by the labor-hour rate agreed upon for the workers involved, and then (ii) multiplying the result by the number of items over which the task has been deleted, and (iii) taking late account in the usual manner the Contractor's cost of developing the proposal and of implementing the change, and increased Government costs related to implementing the proposal. (The result under (i) would be the unit cost reduction for purposes of determining future acquisition savings.)

(End of clause paragraph)

7-1903.52 *Buy American Act.* In accordance with 7-104.3, insert the clause therein.

7-1903.53 *Preference for United States Flag Air Carriers.* In accordance with 1-336.1(b), insert the clause in 7-104.95.

7-1903.54 *Privacy Act.* In accordance with 1-327.1, insert the clause in 7-104.96.

7-1903.55 *Preference for Domestic Specialty Metals.* In accordance with 7-104.93, insert the applicable clause therein.

7-1903.56 *Exclusionary Policies and Practices of Foreign Governments.* In accordance with 6-1312, insert the clause in 7-104.97.

7-1903.57 *Hazardous Material Identification and Material Safety Data.* In accordance with 1-323.2(b), insert the clause in 7-104.98.

7-1903.58 *Contract Certification - Wage and Price Standards.* In accordance with 1-341(f), include the clause in 7-104.101.

7-1903.59 *Limitation on Sales Commissions and Fees for Foreign Governments.* In accordance with 6-1305.6, insert the clause in 7-104.107.

7-1904 *Additional Clauses for Use in Fixed-Price Service Contracts.* The following clauses may be inserted in fixed price service contracts in accordance with Departmental procedures when it is appropriate to do so.

7-1904.1 *Alterations in Contract.* The clause in 7-105.1(a) may be inserted.

EDMONTON SOLUTION

Givens:

- Army Fixed Price Incentive Fee (FPIF) contract
- VE Incentive clause
- VE share rate on instant contract, per para (e) (ii) (B) - 65/35 (NOTE: The share rate is *not* tied to the contract's profit or fee adjustment formula as it is in the current clause!)
- VE share rate between prime and sub 60/40

Target cost	$4,000,000	
Target Profit	$ 320,000	
Target Price	$ 4,320,000	
Ceiling Price	$ 4,800,000	
Share rate	75/25	(on the contract but NOT on VECP)

1.	VECP savings	$ 217,638	
	Less: Contractor costs (total)	< 37,638>	(per para (e) (i) (A))
	Instant contract savings (ICS)	$ 180,000	
	Less: Government costs	< 38,000>	(per para (e) (ii) (B))
	"Excess" - for use on next page	$ 142,000*	

Adjustment of target cost:

Target cost (before adjustment)	$ 4,000,000
Less: ICS (per para (e) (2) (ii) (A)	< 180,000>
Adjusted target cost	$ 3,820,000

2. Adjustment of target profit:

Target profit (before adjustment)	$ 320,000	
Add: 35% of "Excess," per para (e) (2) (ii) (B)	+ 49,700	(35% of $142,000 - see * on prev. page)
Adjusted target profit	$ 369,700	

3. Adjustment of target price:

Adjusted target cost	$ 3,820,000
Plus: Adjusted target profit	+ 369,700
Adjusted target price	$ 4,189,700

4. Adjusted of ceiling price:

Ceiling price (before adjustment)	$ 4,800,000
Less: 65% of ICS, per para (e) (2) (ii) (D)	< 117,000>
Adjusted ceiling price	$ 4,683,000

5. Sharp probably does not have the same processes, supply sources, overhead, etc. as does Edmonton. Sharp may also have stockpiles some of the material from which they intended to make the digital readout units and that material would not be utilized if the VECP were incorporated at Sharp.

6. Calculation of Unit cost reduction:

Per para (e) (3) (I), is the unit cost reduction under the instant contract WITHOUT deducting any cost of development or implementation.

$$\text{UCRinstant} = \frac{\$\,217{,}638}{2{,}500}$$

$$\text{UCRinstant} = \$\,87.0552$$

7. Calculation of future savings using procedure in para (e) (3) (iv):

(e) (3) (iv) (A):

UCR instant	$ 87.0552
Times: Number of units specified in para (e) (3) (iii)	X 4,000
"Product"	$ 348,220.80

(e) (3) (iv) (B)

"Product"	$ 348,220.80
Less: Sharp costs to incorporate the VECP	< 13,000.00>
Gross savings	$ 335,220.80
Times: Contractor's percentage share from (e) (1) (ii) (B)	X 0.35
Edmonton's share	$ 117,327.28

8. This amount ($ 117,327.28) is to be added to the instant contract as a separate line item.

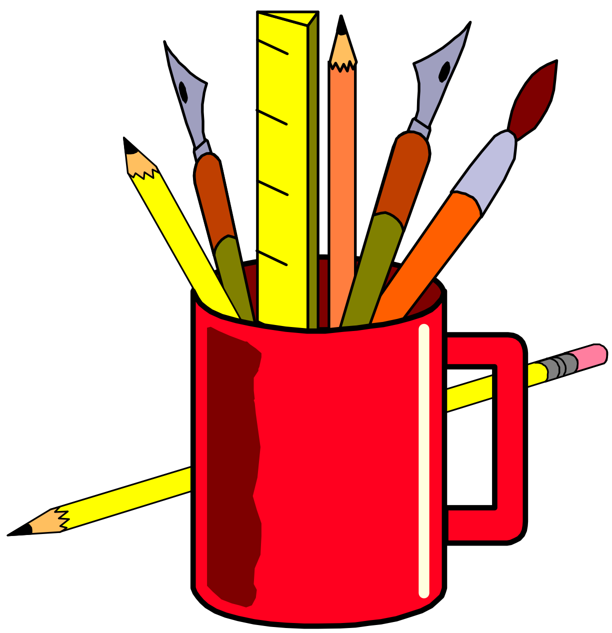
[If Sharp did not require $13,000 to implement, the amount added to Edmonton's contract would be $ 121,877.28 ($348,22.80 - 0 = $ 348,220.80 X 0.35)]

9. According to para (e) (3) (iv) (B), there is to be no adjustment to any of the contract incentive parameters beyond adding the contractor's share of future savings to the instant contract as a separate line item (question #8 above).

CHAPTER F

VALUE ENGINEERING

MATRIX OF CASES COVERED IN CON 236



MATRIX OF CASES COVERED IN CON 236

Page	CASE	CLAUSES				TYPE	ACQ SAVS			
#	TITLES	CHGS	VEI	VEPR	UNS	CONTRACT	INST	CONC	FUTR	COL SAVS
DISCUSSION CASES:										
C-3	ARIES		X			FFP	X	X	X	X
C-5	CORVUS		X	X	(ALT II)	CPAF	X		X	
C-7	POLLUX	X	X			FFP	X			
C-9	BOÖTES			X		CPFF	X	X	X	
C-11	DORADO		X (ALT III)			CPIF	X			NO
C-13	FORNAX		X (CONST - ALT I)			FFP	X			NO
C-14	HYDRA		X (CONST - SUB KTR)			FFP	X			X
C-15	GRUS		X (SUB KTR)			FFP	X			X
C-17	LEPUS		X (EXT PRODN)			FPIF			X	
C-22	MUSCA		X (LRIP)			CPFF	X		X	
C-23	MAYSVILLE		X (ALTERNATIVE VECPS)			FFP				

MATRIX OF CASES COVERED IN CON 236 (CONT.)

Page #	CASE TITLES	CLAUSES: CHGS	CLAUSES: VEI	CLAUSES: VEPR	CLAUSES: UNS	TYPE CONTRACT	ACQ SAVS: INST	ACQ SAVS: CONC	ACQ SAVS: FUTR	COL SAVS
REFERENCE CASES:										
E-2	LEHIGH				X					
E-6	NORMA		X			T & M	X			
E-17 (DAR)	ALTOONA		X			FFP	X		X	X
E-51 (ASPR)	ALPENA		X			FFP	X			X
E-60 (DAR)	ASHLAND		X			FFP	X			X
E-90 (ASPR)	EDMONTON		X			FPIF	X		X	
CAPSTONE CASE:										
	THE HOWIE-PRYOR CONNECTION		X (SUB KTR)	X		FFP CPFF	X	X	X	X

Compendium of Contested Value Engineering Contract Actions may be obtained from:

Simone Smith
Electronics Industries Association
Value Management Group
2001 Pennsylvania Avenue, N.W.
Washington, DC 20006-1813
202/457-4999

Cost is:
$15 for updates only - Government & EIA
$45 for complete set - Government & EIA
$25 for updates only - non-EIA corporate
$60 for complete set - non-EIA corporate